

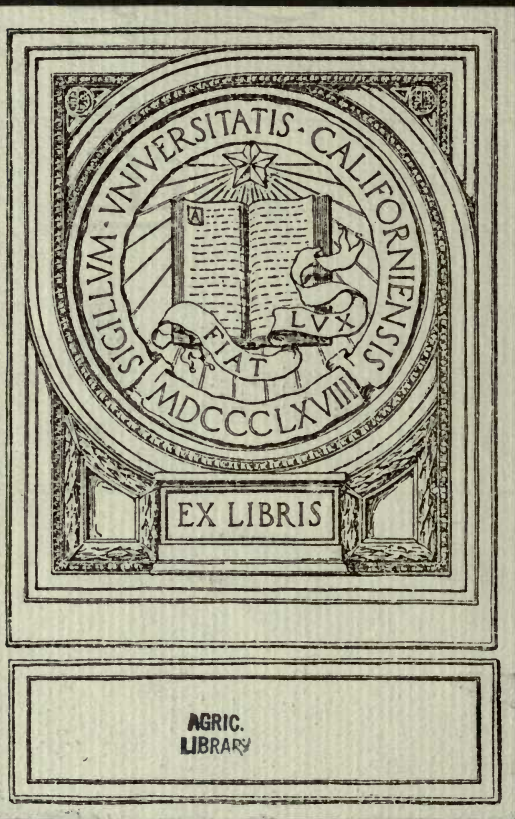
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# PARADISE VALLEY POULTRY RANCH

*Home of Paradise Strain of Mammoth Bronze Turkeys*



"COPPER KING V"

Unretouched photograph of the First Prize Yearling Tom at the National Bronze Turkey Club Show at Madison Square, January, 1919, First Prize Tom at the National Bronze Turkey Club Show at Chicago, January, 1920.

1920

NATIONAL CITY, CALIFORNIA



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*We are members of the following organizations:*

AMERICAN POULTRY ASSOCIATION  
WYANDOTTE CLUB OF CALIFORNIA  
NATIONAL WHITE WYANDOTTE CLUB  
INTERNATIONAL TURKEY CLUB  
NATIONAL BRONZE TURKEY CLUB  
POULTRY BREEDERS ASSOCIATION



## Mating List for 1921

During the past year we shipped eggs and stock to a great many eastern states as well as cities along this coast. We have done very little advertising, depending almost entirely upon the advertising we got through the stock we sold and shipped out, and the birds raised from our eggs. As is the experience of every ranch, we have unreasonable demands made upon us, but they have been very few. Whenever possible, we have attempted to satisfy even these demands.

We select our birds very carefully for breeding, and supply our customers with eggs from the same pen that we raise our own show birds from. We raise a great number of birds and cull very closely for our breeders, sending undesirable stock to market. This is the reason we now have such a wonderful lot of birds.

We have added White Leghorns to the list of birds raised on our ranch. We have been breeding White Leghorns for about a year, but have been interested in them for five or six years. We have not offered them for sale until we thought we had a first-class line of birds. You will see by our winnings in the San Diego Show, that we took a great many prizes although in competition with a very large number of birds.

Following is a list of our winnings this year.

### Turkeys

Tom 1 Hen 1 Best Gobbler Best Hen Best Display	} Southern California Fair, Oct., 1920.	{ Yearling Tom 1, 2 Yearling Hen 1
Tom 1 Hen 1, 2	} San Diego County Exhibitors' Club, Nov., 1920.	{ Yearling Tom 2, 4 Yearling Hen 1, 2 Cockerel 1 Pullet 3
Tom 1 Hen 1, 2 Best Display	} San Diego County Fair, Sept., 1920.	{ Yearling Tom 1, 2 Yearling Hen 1, 2

### Toulouse Geese

Gander 2 Goose 1 Best Goose	} Southern California Fair, Oct., 1920.	{ Young Gander 1 Young Goose 1
Gander 1, 2 Goose 1, 2	} San Diego County Exhibitors' Club, Nov., 1920.	{
Gander 1 Goose 1, 2	} San Diego County Fair, Sept., 1920.	{ Young Gander 1 Young Goose 1

## Pekin Ducks

Drake 1	{	Southern California Fair, Oct., 1920.	{	Young Drake 1
Duck 1, 2				
Best Duck				
Drake 1, 2	{	San Diego County Exhibitors' Club, Nov., 1920.	{	
Duck 1, 2				
Drake 1	{	San Diego County Fair, Sept., 1920.	{	Young Drake 1
Duck 1, 2				

## Muscovy Ducks

Drake 1	{	Southern California Fair, Oct., 1920.	{	
Hen 1, 2				
Drake 1, 2	{	San Diego County Exhibitors' Club, Nov., 1920.	{	
Duck 1, 2				
Drake 1, 2	{	San Diego County Fair, Sept., 1920.	{	
Duck 1, 2				

## White King Pigeons

Cock 2, 3	{	San Diego County Exhibitors' Club, Nov., 1920.	{	Young Cock 1, 2 Young Hen 1, 2
Hen 1, 2				
Display Pen 1				

## Partridge Plymouth Rocks

Cock 1	{	Southern California Fair, Oct., 1920.	{	
Hen 1, 2				
Cock 1	{	San Diego County Fair, Sept., 1920.	{	
Hen 1, 2				
Cock 1	{	San Diego County Exhibitors' Club, Nov., 1920.	{	
Hen 1, 2				

## White Wyandottes

Hen 1, 3	{	San Diego County Fair, Sept., 1920.	{	
Hen 2	{	San Diego County Exhibitors' Club, Nov., 1920.	{	Young Pen 3
Old Pen 4				

## White Leghorns

Cock 4	} San Diego County Exhibitors' Club, Nov., 1920.	{ Cockerel 1 Pullet 1, 2, 5 Young Pen 2
Hen 2, 3		
Best Male		
Best Display, all varieties.		
Best Display Mediterranean Class.		
Best Pen Leghorns nearest standard weight.		
Best pair Leghorns.		
Best Cock, Hen, Ckl. and Pullet (Leghorns) all varieties competing.		



## Turkeys

Pen I. Headed by Copper King V, and eight first prize hens. No pullets are used in this yard. Eggs \$3.

Pen II. Headed by Paradise II, a yearling tom, who is the son of Paradise I and one of our best hens. He is a beautiful bird and from his line of breeding he is going to make a wonderful sire for this pen. The pullets are all select birds. Eggs \$2.

Pen III. Headed by Cupperus, a son of Copper King V and the first prize pullet of Chicago last year. The pullets in this pen are all from our last year pens II and III.

Utility Pen. We will have a limited number of utility eggs for sale at 50c each. This flock is made up of all good birds, but as we did not wish to make up any more pens, we are keeping these surplus birds for utility stock. Heading this flock are cockerels that have developed in stature and bone more than in markings.

Cockerels or Pullets \$25 to \$100 each. Yearling Toms, \$35 to \$100.

## Geese

The pens are made up of the same birds as last year. Geese live to be a great many years old and it is not necessary to change them each year. A trio of good geese will serve for a number of years for breeding purposes. We have a number of young birds hatched this year, which we are selling at \$15 to \$25 a pair. Last year's birds are from \$20 to \$30 a pair. Two-year-old birds are from \$25 to \$50 a pair. Special prices are made on large numbers of birds. Geese do not mature until they are from seven to ten years of age and improve in show quality up until ten years old. It is therefore advisable to buy the best, if you want the best, so that when they are fully matured, they will be what you expected.

## White Muscovy and Pekin Ducks

We have only a limited number of eggs from White Muscovy and Pekin Ducks for sale. You will see by our winnings that our birds are of the very best.

## White Wyandottes

We have improved our White Wyandottes a great deal during the past year. Owing to the fact that they went into the moult just at show time, we were unable to participate in many contests with them.

Cockerels and Pullets \$5 to \$25 each. Pens, 1 male, 4 females, \$25 to \$100.

## Partridge Rocks

Our beautiful Partridge Plymouth Rocks have attracted a great deal of attention at the shows. We have some very fine specimens but a very limited number of settings of eggs and stock to sell, as most of the birds were sold during the shows.

\$25 to \$50 a trio. Cockerels, \$5, \$10, \$15, \$20, \$25.

## King Pigeons

We consider the White King the best variety of pigeons, and have been more than satisfied with them. We have sold them at extremely low rates and sold them so fast that today we have very few pairs of select birds to sell. If our birds had not been prolific breeders, we could not have supplied the demand. As we have sold most of our utility breeders and now have only good show birds left as well as our most prolific breeders, we have raised the price from \$2 to \$3 for unmated birds and from \$3 to \$5 for mated pairs. The price demanded in the East for the same birds is from \$10 to \$15.

## Leghorns

Pen I. Our best cockered is mated up to ten first-class pullets. We won several prizes and all special ribbons on Leghorns at the San Diego Exhibitors' Club Show where more than 150 Leghorns were in competition. The cockerel heading this pen was considered the best bird in the show. The pullets are all high class birds and are the ones entered in the show. Eggs \$10 a setting.

Pen II. Headed by a cock which has produced not only winners but some of the finest typed birds in the country. He is mated up with first-class hens. Eggs from this pen will no doubt produce show as well as utility stock. These birds are not only raised for their show ability but are bred for egg production. Only birds which have produced from 200 to 300 eggs have been retained. They are not only of the best show, but of the best utility stock. We recommend these birds to the man who wishes show stock as well as the man who is raising birds for egg production. These birds should please the worst critic. Eggs \$7.50 a setting.

Cockerels \$10 to \$25. Pens, 1 Cockerel, 4 Pullets, \$50 to \$100.



## Introduction

This booklet is issued with the hope that it will prove profitable to those interested in the breeding and raising of poultry. It is felt that we can be of more service by giving some good sound advice than by filling the same space with testimonials of our stock.

We are indebted to the U. S. Department of Agriculture, the American White King Pigeon Association, and to the associations to which we belong for much of the information compiled herein. In the number of years we have been raising poultry, we have found it is the most economical method to allow those who are better equipped, as the Federal and State Departments of Agriculture, to experiment and ascertain the best methods of feeding and caring for poultry. The Departments of Agriculture of the Federal Government and the various States are always glad to give the information they possess, which will be more valuable and more reliable than the experience of one who is not an authority.

All the advice in the world concerning the hatching, feeding and raising of chickens is wasted upon the man who has not learned the primary lesson, that success in the breeding of any fowl or animal is based upon the parent stock. Mongrels and culls, whether in horses, hogs or fowls, spell failure, and many a man has thrown away years of time and energy and thousands of dollars in the attempt to build success upon a poor foundation.

Perfectly appointed yards, fine equipment and expert attention only serve to postpone failure a little longer with a mongrel flock. The output of eggs is small, fertility is low, and chicks are not sufficiently strong to yield a paying percentage of grown fowls. Mongrels eat as much and require as much attention and expert knowledge as well-bred fowls, and generally do just sufficiently well to keep a man pouring in time and money until his capital is exhausted, where standard bred fowls would be bringing in a steady profit.

We are not asking you to patronize us or any other particular breeder, nor is this meant to advertise any special breed. This is an appeal to the man who wants to succeed, and we urge him to start right with good stock, keep his flock free from culls, and to build his success upon a foundation that will not crumble away and drop him among the failures in the end.

## Our Guarantee

All stock is guaranteed to be as represented in our booklet and in our correspondence. If upon the arrival of the stock you are not satisfied with it, you may return the bird or birds and we will return your money. If stock is to be returned, it must not be held over two days and must not be shown.

We guarantee to deliver eggs in good condition.

We guarantee all eggs to be strictly fresh.

Test eggs on the tenth day. If they do not run 75% in fertility, we will replace the infertile eggs, charging you only half their regular price. The clear eggs must be returned to us.

25% deposit is required on orders, the balance to be paid before shipment of eggs or stock.

No stock or eggs delivered c. o. d.

Send money by draft, P. O. or express order.

We are breeding from birds that have won prizes at the largest poultry shows in the United States as well as numerous smaller shows. We have endeavored to give an accurate description of these birds, in describing the pens to which they belong. You can judge for yourself whether you want eggs or stock from such birds.

If we may have the privilege of receiving your order, we feel confident you will not be disappointed in the stock you receive or the stock you raise from the eggs we send you.



## Paradise Strain Bronze Turkeys

Our strain of turkeys has stood the test of exhibition. To produce this strain of high-class show bird, we use birds that mature rapidly, birds that are large in size, and birds with fine plumage.

A hen or pullet that is not a prolific layer is not retained; she is fattened and sold to the butcher. With such elimination, the fertility of our eggs runs exceptionally high, for we have found that the birds laying the greatest number of eggs produce the greatest number of fertile ones. One good laying hen or pullet will produce as many eggs as two or three poor layers and as many fertile ones.

We breed on two ranches, have four separate flocks, and also have single breeding pens. Nevertheless, we deem it necessary to introduce new blood frequently. To improve certain features in our flock we purchase birds in which the desired feature is present to a marked degree. We do not purchase any but prize-winning birds of the large Eastern shows.

Our stock is positively not inbred. For this reason, we produce large, vigorous, prolific stock.

Our utility stock is all bred from prize winners, and has received the same careful attention as our best prize stock. Owing to the fact that the color is not as perfectly defined, these birds have been classed as utility.

## The Bronze Turkey

The Bronze Turkey is the largest of all the various breeds of turkeys.

This breed lays more eggs, grows more rapidly, and is the easiest of any class to raise.

The Bronze Turkey always commands a good price.

We are producing turkeys that grow rapidly and make large birds.

Where one of our toms has been mated to ordinary bronze turkey hens, the pullets they produce have all been several pounds heavier than their dams, by Thanksgiving.

In exhibiting any fowl, always study the American Standard of Perfection for disqualification as well as qualification.

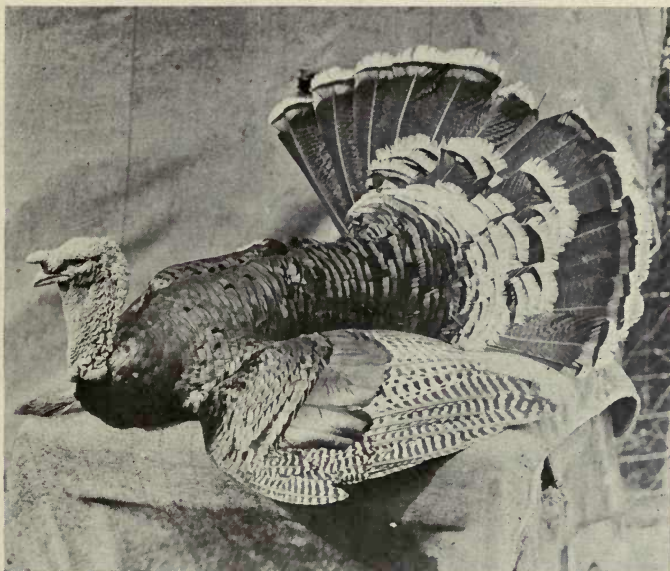
Start to condition your birds early.

Blue ribbons are often lost by birds which have not been properly prepared, which otherwise would have won.

# Turkeys

Tom 1 Hen 1, 2, 3, 4	}	San Diego Pure-Bred Poultry and Live Stock Show, Dec. 20-24, 1917.	
Tom 3 Hen 5	}	Poultry Breeders Assn. of Sou. Cal., Dec. 1917.	
Hen 2, 3, 4 Special prize best display Bronze Turkeys	}	Poultry Breeders Assn. of Sou. Cal., Jan. 8-14, 1919.	{ Yearling Tom 1, 2 Pullet 1, 2, 3
Hen 1	}	San Diego County Fair. Sept. 24-27, 1919.	{ Yearling Tom 1, 2 Cockerel 1, 2, 3 Pullet 1, 2, 3
Hen 1 Special prize best yearling Tom and Hen. Special prize best display.	}	Southern California Fair, Oct. 7-11, 1919.	{ Yearling Tom 1, 2 Cockerel 1, 2, 3 Pullet 1, 2, 3
Hen 3, 5	}	Los Angeles Live Stock Show, Oct. 18-26, 1919.	{ Yearling Tom 3, 4 Cockerel 1, 2, 3 Pullet 1, 3, 4
Hen 1, 2	}	Alameda County Fair, Nov. 1919.	{ Cockerel 4 Pullet 3
Tom 1 Hen 2, 3 Special prize best display Turkeys.	}	Poultry Breeders Assn. of Sou. Cal., Jan. 7-13, 1920.	{ Yearling Tom 1 Cockerel 1 Pullet 1, 3
Tom 1 Hen 1, 2	}	San Diego County Exhib- itors' Club, Jan. 16-19, 1920.	{ Yearling Tom 1 Cockerel 1 Pullet 1, 2





"COPPER KING V"

**Pen 1.** Headed by Copper King V, the bird that headed Bird Bros. flock No. 1, during 1919. Bird Bros. say of Copper King V: "From the days of the Sensational 'Copper King', we have been improving his progeny from time to time, until today we have reached this great masterpiece 'Copper King V', whom we consider the peer of our production since the origin of our 'Goldbank' strain, and the guiding star in the Bronze Turkey world today.

"Beside the long line of winnings 'Copper King V' has credited to him, this bird has the additional honor of taking **FIRST AND SPECIAL PRIZE AT THE NATIONAL BRONZE TURKEY CLUB SHOW AT MADISON SQUARE GARDEN, JANUARY, 1919.**

"This yearling tom is a good-framed, vigorous 38-pounder in breeding condition, and is superb in shape and plumage. His wing barring and tail penciling are good. He has good white edging everywhere. His entire back, body and coverts are a shining mass of the most brilliant copper bronze. He has not a trace of gray at the base of the tail."

(Notice in the photograph the penciling, good bands of black, broad bands of bronze on the end of the tail, white on the end of the tail, and **ESPECIALLY** the spots of bronze on the greater tail coverts—these spots put this bird a step ahead of the standard.)

Since the above was written, this bird has improved in appearance. He was entered by Bird Bros. in the National Bronze Turkey show at Chicago, January, 1920, as a tom, where he again took 1st prize.

Bird Bros. state that after the National Bronze Turkey Show at Chicago and the Madison Square Garden Show, New York, January, 1920, this tom produced the best cockerels and pullets they had ever raised.

The birds this tom is mated to are all select hens, weighing above 20 pounds, and some exceptionally fine pullets, all of which have taken ribbons at various shows. They are not only good birds themselves but have a long line of ancestors which were prize winners at Chicago, Madison Square Garden, and other well-known poultry shows.

Eggs, \$3.00 each.



"PARADISE I"

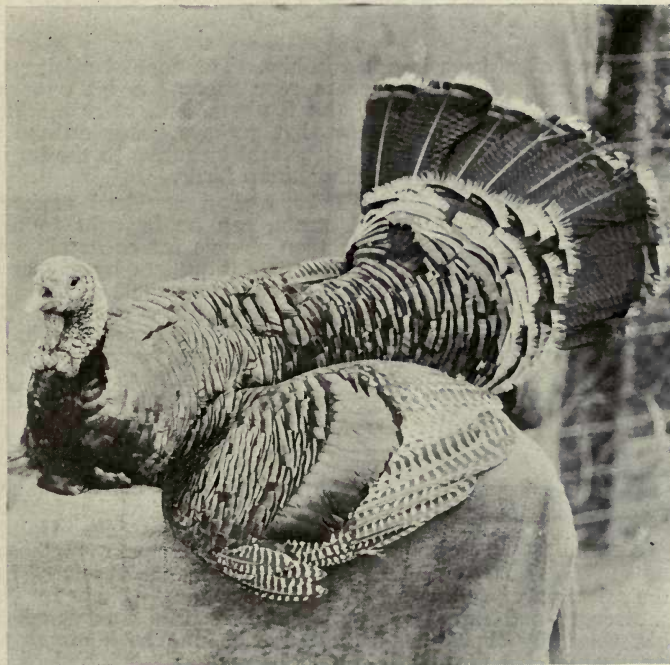
**Pen 2.** Headed by Paradise I. This tom took second cockerel at Coliseum, Chicago, December, 1918; second, National Poultry Show, Chicago, January, 1919. At the Coliseum Show he took second in a class of twenty-one cockerels. To win second in two large shows, where all the leading turkey fanciers of the Middle West exhibit, is a remarkable feat for an early hatched bird, but when a late hatched turkey such as Paradise I can carry away such prizes, it means that he is indeed an exceptionally fine cockerel. This bird developed even better, and took several first prizes in good competition as a yearling. Many of his progeny, both pullets and cockerels, took ribbons this year, so we can vouch for his ability to produce winners.

This yearling tom has a wonderful bronze back, as well as spots of bronze in his greater tail coverts, and is a good bird in all sections. He is a yearling and weighs 35 pounds.

The pullets making up this pen are ten large fine birds. The dams and sires of all of them have been prize winners for several generations. They are all a good copper bronze, leaving good white edging, black banding, and penciling, besides excellent wing barring.

Price, \$2.00 per egg.





"GOBBLE"

**Pen 3.** This pen is headed by "Gobble", a forty-pound tom which took third prize at Madison Square Garden, January, 1919, and first at Los Angeles and San Diego Shows, January, 1920. He is an exceptionally heavy-boned bird with good bronze all over and fine tail markings. He is the kind of bird that attracts not only one who wants show birds but one who is breeding for large birds for market. To him we have mated ten birds that are all large and well marked. They are all selected for their size and vigor as well as color.

Price, \$1.00 per egg.

**Utility Pen** This pen is made up of pullets and cockerels that we are holding over to pick our show birds from next year when they have developed. There are no culls in this flock, and anyone raising birds from them will get large vigorous stock. As they have not been tested out as breeders, we cannot vouch for any show birds being produced from them, altho there are some very fine birds numbered in this flock.

Price, 50c per egg.

## Turkeys

The breeding of turkeys is not a hobby. The cost of raising them is small and the profits large. Breeders may "scrap" a bit over a color scheme or the number of bars on the feathers, but, after all, it is the money that turkeys bring on the market that is the real incentive to the business of breeding these birds.



A 26-lb. HEN

Turkeys of a standard variety, of a good strain, can be brought to a weight of eighteen pounds for cockerels and fourteen pounds for pullets by November 15. These figures are conservative, because many turkey breeders can add three to eight pounds to these average weights. And you know that these weights can be produced with but little more attention or feed than it takes to produce a six-pound chicken.

### SELECTION OF BREEDING STOCK

One of the most important steps toward success in turkey raising is the proper selection of breeding stock. Unhatchable eggs, weak poults, and small, scrubby turkeys, are largely the result of carelessness in the selection of the parent stock. In selecting turkeys for breeding purposes, strength and vigor are the first points to be considered. To indicate this, the body should be deep and wide, the back broad, and the breast round and full. The head should be of good size, and of a clean, healthy appearance. A strong, well-made frame is shown by thick, sturdy shanks and straight, strong toes.

Breeders of pure-bred turkeys select their breeding stock for vigor, size, shape, bone, early maturity, and color of plumage. It should be the aim of every turkey grower to have a flock of pure-bred turkeys, even tho they are sold at market prices. The cost of raising pure-breeds is no more than that of mongrels, and the profit is much greater. By all means the male at the head of the flock should be a pure-bred bird of the best type obtainable. He is one-half the entire flock, and by continually selecting the best females of a similar type and mating them with a pure-bred male one can soon have a flock of uniformly large, early maturing, strong-boned, long and deep-bodied turkeys of the same color that will bring better prices on the market than mongrels, because they will be of greater size and better fleshing qualities. Aside from the greater market value of pure-bred turkeys, there is also an excellent opportunity of selling the best birds for breeding stock at increased prices. The demand for pure-bred turkeys is good, and as soon as their reputation is established breeders of high-class birds have little difficulty in disposing of them.

Inbreeding is harmful and if carried on very long will result in the loss of vigor and vitality. It is, therefore, advisable each year to obtain a new tom of unrelated blood, but of the same type. Nothing is to be gained by crossing varieties, as such practice soon reduces pure breeds to mongrels.

As to the best age for breeding stock, most turkey breeders prefer to mate a vigorous, well-grown young tom (cockerel) with early hatched young hens (pullets) or with yearling hens. Early hatched turkeys are in most cases sufficiently mature to be used as breeders their first season, but in no case should late-hatched or slow-growing birds be kept for breeders. An excellent plan is to keep as breeders each year one-half yearling hens



and one-half early-hatched pullets, and mate them with a well-developed and vigorous early-hatched cockerel. Yearling toms can be used if desired, but owing to their greater weight, and clumsiness, they are liable to injure the hens. Should a yearling or older tom be used, care should be taken to pare off the spurs and file the sharp points from the nails. After the third year the egg production of turkey hens begins to fall off and it is advisable to replace them with younger stock.

The most satisfactory time of year to select breeding stock is November or December. By purchasing early in the season, one not only has a larger number to choose from but the birds are given ample time to become acquainted with their new surroundings before the mating season, which in the South ordinarily begins early in February, and in the North about a month later.

### MANAGEMENT OF BREEDING STOCK

Fifteen turkey hens can safely be mated to a vigorous tom. If 25 or 30 hens are kept, two toms should not be allowed to run with them at the same time, but one should be confined one day and the other the next. When two toms are allowed to run together during the mating season, they fight fiercely, and the stronger does practically all the mating.

When only a few turkeys are kept it is the usual custom to allow them free range thruout the breeding and laying season. This is undoubtedly a good plan, provided the nests are found and the eggs gathered daily, where there is danger of their being destroyed or chilled. If many turkeys are kept, however, it is usually found most convenient to use breeding pens or inclosures. These should be of sufficient size to afford some exercise, an acre for fifteen turkey hens being none too large. By taking turns in the use of three toms, as many as forty-five turkeys may be kept in one inclosure, one tom being used every third day, or better yet, one can be used in the morning, another in the afternoon, and a third the following morning. It is an excellent plan to allow the birds to roost outside the pen, turning them out late in the afternoon, after they are thru laying, and driving them in early the following morning. Turkeys are easily handled, the work of driving them into the pen every morning requiring but a few minutes if they are fed there regularly, and the exercise they get while ranging outside the pen helps to keep them in good condition.

The construction of a turkey pen is simple. Very often the family orchard is utilized for this purpose. A hog-proof wire fence three feet high will hold most turkeys, if the pen is large enough to keep them contented and if the hens are put into the pen before they have selected nesting places outside. Should any persist in flying out, the flight feathers from one wing can be cut, or a paddle fastened across the back by tying with a strip of cloth under each wing, so that when the wings are raised they strike against the paddle and flight is prevented. Turkey hens that have made their nests before they are put into the pen will make every effort to get out whenever they want to lay, and if they do not succeed they will often hold the first egg or two as long as possible and then lay wherever they happen to be. Within two or three days, however, they usually select a nest in the pen and there lay the remainder of the litter.

Rail, board, or stone fences are of no value for confining turkeys, which easily fly on top of them and then jump down on the other side. In the case of a wire fence, however, there is no place on which to alight, and under ordinary circumstances they do not make the attempt. For this reason steel posts are better than wooden posts for a turkey fence, unless the latter are sharpened at the tops.

### FEEDING THE BREEDING STOCK

Good breeding condition means being well fleshed, but not fat. Given free range where there is ample supply of natural feed during the winter and early spring, such as is usually the case in the southern portion of the

United States, a good daily feed of grain, preferably oats or wheat, is sufficient to keep the birds in good condition. The natural feed of turkeys at this time of the year consists largely of grass, tender buds, young leaves, insects, and nuts and seeds of various kinds. During the winter northern turkey raisers usually feed twice a day on equal parts of oats, wheat, and corn, with vegetables such as potatoes, turnips, beets, and cabbage as a substitute for green feed. Animal feed at that time of year is essential to the best results, and can be supplied by feeding meat scrap, beef livers and lungs, or skimmed milk, either sweet or sour. If confined in a breeding pen, green feed can be supplied by sowing the pen to grass, oats, wheat, barley, clover, alfalfa, or some such crop. Wheat and hulled oats are the best grains to feed, corn being too fattening unless fed in connection with other grains. Free access to grit, charcoal, and shell-forming material, such as oyster shells, is necessary thruout the breeding and laying season.

### HOUSING BREEDING STOCK

During cold winter weather, such as prevails in the northern States, a few turkey raisers provide roosting sheds, but the great majority allow their turkeys to roost in the open, usually in trees thruout the year. There is little need of a regular turkey house, but during damp, icy weather and during stormy winds the turkeys should be driven into a barn or shed. They can stand a reasonable degree of dry cold, but they should not be exposed to dampness and cold at the same time.

### LAYING

Soon after mating, turkey hens begin to look for nesting places and usually commence laying in from a week to ten days after the first mating. One mating is sufficient to fertilize all the eggs of one litter, but the hens ordinarily mate three or four times before beginning to lay. All turkey hens, of course, do not begin laying at the same time, and in a flock of about fifteen it may be six weeks or more from the time the first hen begins to lay until the last begins. Pullets usually commence laying a little earlier than yearlings or older hens. The average number of eggs in the first litter is about eighteen, altho in individual hens it may vary from twelve to thirty. Hens that do not have to be set can be broken up on becoming broody and made to lay a second or a third litter. The number of eggs laid in the second litter averages about twelve, and in the third about ten, altho there is considerable variation in the egg production of different hens. Some turkey hens can be made to lay four or five litters, but this is not usually advisable, as poults hatched later than June do not have a chance to develop for the Thanksgiving and Christmas markets and are not sufficiently mature by the following spring to be used as breeders. A hen that begins laying in the middle of March will usually finish laying her first litter about the third week in May, depending upon the number of eggs she lays and the promptness with which she is broken up on becoming broody. Hens that are allowed to hatch and raise a brood of poults after laying their first litter often begin laying again in the fall, but poults hatched at that time are of little value, as they require too much care and attention to carry them thru the winter. Fall-hatched pullets begin laying late the following spring, but they are immature at that time and poults hatched from their eggs do not develop into large, strong birds as do poults from mature stock.

Turkey hens can easily be broken of their broodiness by confining them for two or three days to a coop with a slat bottom. They will mate soon after being let out of the coop and begin laying in about a week. The first two or three eggs of a litter are usually laid at the rate of one every other day, after which the hens ordinarily lay every day until they are broody, altho sometimes they skip one day before laying the last egg of a litter. There is no particular time of day when a turkey hen lays, but most of the eggs are laid in the morning.



### FINDING THE HIDDEN NEST

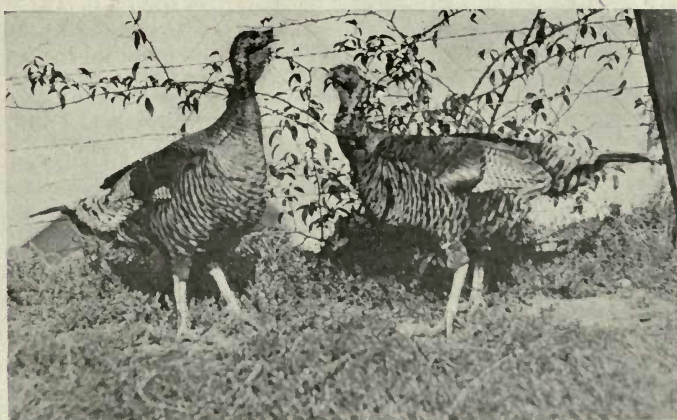
Given free range, turkey hens usually secrete their nests in obscure places, such as patches of weeds, tall grass, or bushy thickets, and often wander a half-mile or more from home before they find places that suit them. To find these "stolen" nests, as they are usually termed, is often a long and tedious task, the usual method being to follow each turkey hen as she separates from the flock and starts toward her nest, taking care that she does not know she is observed. A much easier and quicker method than this is to confine the hens early some morning soon after they have come down from roost and let them out late in the afternoon. Those that are laying will then head straight for their nests in order to lay the eggs they have been holding.

If attractive nesting places are prepared about the barn-yard, turkey hens sometimes lay in them. In the North, where the laying season often begins while there is still snow on the ground, they are more likely to select their nests near home than is the case in the South, as they do not range far during cold weather. Nests are easily made from boxes or barrels, or by scooping out a little earth in the shape of a shallow bowl and piling brush around it to satisfy the hen's desire for seclusion. Of all nests, however, the one most preferred by turkey hens is a barrel laid on its side and a nest shaped in it with straw or hay. When confined to a breeding pen several turkey hens often lay in the same nest, but on free range each hen usually makes her own nest.

### CARE OF EGGS

When there is danger that the eggs may be chilled or destroyed they should be gathered every day and a nest egg left in each nest. Skunks, opossums, rats, crows, and dogs are the greatest destroyers of turkey eggs, altho minks, raccoons, coyotes, wolves, foxes, cats and certain large snakes are also egg eaters. Often, when a turkey hen has been disturbed by one of these pests, she changes her nest to some other place.

Eggs for hatching should be kept at a temperature of as near 50° or 60° F. as possible, and should be turned over every day. They should be jarred as little as possible while handling, and should be incubated while still fresh, never holding more than two weeks if it can be helped. It is an excellent plan to mark the date on each egg as it is gathered, in order to be certain that no eggs are kept too long before they are incubated.



50-lbs. OF TURKEY HENS

### INCUBATION.

Turkey hens and chicken hens are ordinarily used to incubate turkey eggs, altho incubators are quite generally used where turkeys are raised on a large scale. During the early part of the laying season it often happens that there are on hand a number of eggs that should be set before any of the turkey hens are thru laying their first litter and become "broody". In such case, and also when it is desired to have the turkey hens lay a second or third litter, some of the eggs have to be incubated under chicken hens or in an incubator. About a week before the poults are to hatch a sufficient number of turkey hens should be allowed to set to take all the poults hatched. They can be given a few eggs from the incubator or from under the chicken hens and allowed to hatch the poults themselves, or at night a newly-hatched poult can be slipped under each turkey hen that is to be given a brood of poults and by morning they will take them.

Turkey hens are very close sitters, and if managed properly they are the surest means of hatching turkey eggs that can be used. Incubators, however, are quite as successful with turkey eggs as with chicken eggs. Poor hatches are a very frequent cause of complaint among turkey raisers, and this is quite often due to crowding more eggs under the hens than they can properly cover. One egg too many means that every egg in the nest will probably become chilled at some time during the four weeks of incubation. Turkey hens cover from fifteen to eighteen eggs and in some cases more, depending on the size of the hen. Chicken hens of the general-purpose breeds cover from eight to ten eggs. The turkey-egg capacity of an incubator is approximately three-fourths of the chicken-egg capacity.

Nests for setting turkey and chicken hens are best made on the ground by hollowing out a little earth, so that the center is deep enough to keep the eggs from rolling out of the nest. A thin covering of clean straw or hay can then be used to prevent the eggs from being directly on the ground, and a large roomy coop should be placed over the nest to keep the hen from being disturbed. When a number of hens are to be set, a long row of nests can easily be made on the ground, separating them with board partitions. If this is done care must be taken to see that when the hens come off the nests each returns to the right one, instead of crowding into a nest with another hen and leaving some of the eggs to become chilled. With only a few hens it is better to set them some distance apart, as they will then require less attention.

When a hen becomes broody and shows that she is in earnest by remaining on her nest for two or three nights, she may safely be trusted with the eggs, provided she is allowed to sit in that nest. If she is to be set in another nest, as is usually the case, then she should be removed to the new nest, preferably after dark, given a few nest eggs, and shut in to prevent her from returning to the old one. If she sits quietly on the nest eggs she should be taken off on the evening of the following day and the eggs to be incubated placed in the nest. On being freed, she will probably return to her old nest; if so, she should be carried back and set quietly on the eggs, when she will immediately feel them beneath her and settle down to cover them. She should be handled in this manner until on being let off she returns to the new nest rather than to the old one. It sometimes takes but two or three days, and seldom more than a week, to break a hen from returning to her old nest. Turkey hens do not ordinarily come off for feed and water more than once every two or three days, but when confined they should be given an opportunity to come off every day. Occasionally a turkey hen does not come off at all, and in such case she should be taken off once a day, as otherwise she will die on the nest.

On coming off her nest the first thing a turkey hen does is to stretch her wings, step gingerly for a few steps, and then she often takes a running start and flies for a short distance. Exercise of this sort helps greatly to keep a sitting hen in good condition, and for this reason it is not well to confine her to a small space. A dust bath is greatly enjoyed by sitting



hens and helps to keep them free from vermin. Whole corn is a good feed, and fresh water and grit should always be accessible.

Lice are a great annoyance to sitting hens and are one of the worst enemies of young poults. To prevent their getting a foothold, the hen should be dusted thoroly with some good lice powder before she is placed on the nest, and then both the hen and the nest should be similarly treated once a week for the first three weeks of the incubation period. The nesting material should be kept clean, and if the eggs become dirty they should be washed with a soft cloth dipped in lukewarm water. Just before the poults are to hatch, the old nesting material should be replaced with clean straw.

The incubation period of turkey eggs is twenty-eight days. The first egg is usually pipped during the first part of the twenty-seventh day, the first poult hatched by the middle of that day, and the hatch completed at the end of twenty-eight days, altho in extreme cases all the poults are not hatched before the end of thirty days. Turkey eggs are tested for fertility and for dead germs, as a rule, on the tenth and twentieth days.

### BROODING

The average number of poults raised under ordinary conditions is about fifty per cent of those hatched out, or about seven poults for every turkey hen. By far the greater part of this loss occurs when the poults are quite young, that is, under a week old. Seldom are any lost after they are a month old, unless there is an outbreak of disease. The high mortality among young poults is mainly from the following causes:

- (1) Exposure to dampness and cold.
- (2) Improper feeding.
- (3) Close confinement.
- (4) Lice.
- (5) Predatory animals.
- (6) Inherent weakness, the result of carelessness in selection of parent stock.

With the exception of predatory animals, all these causes are easily removed. Experienced and careful turkey growers are able to raise a much higher per cent of the poults hatched.

As soon as the hatch is completed and the poults begin to run around outside the nest the hen and brood are ready to be removed to the coop provided for them. The coop should be built to keep out rain; it should be well ventilated, capable of easy movement, and be sufficiently roomy for a turkey hen to stand erect and walk about. There should be a separate coop for each hen and brood, and the coops should be scattered about the farm in such places as are easily drained and where natural feed, such as tender, green vegetation (grass, clover, alfalfa, and other green feed), and insects, particularly grasshoppers, can be found. By moving the coop every day the ground will be kept clean and opportunity will be given the mother hen and poults to pick up fresh, green feed inside the coop. Plenty of exercise is essential if the poults are to thrive. At all times, when rain or dampness does not prevent, the poults should be allowed to run in and out of the coop at will. Too much stress cannot be given to the necessity of exercise, and the only way to provide for this is to allow the poults at every possible opportunity to range for feed outside the coop. During a long-continued rainy season it is better to allow them to run out of the coop whenever it is not actually raining, even tho the grass is somewhat damp. By confining the mother hen to the coop she will always be ready to hover the poults whenever they run to her, which they will do if they become chilled. The greatest care should be taken to keep the interior of the coop dry, and for this reason it is advisable to choose a sandy slope where the water runs off quickly and where there is also protection from heavy rains. If necessary, the mother hen can be confined to a roomy

coop for a week or more, provided she is properly fed and watered, and the coop moved to fresh ground every day.

If the weather is warm and dry, as frequently happens when the poults are hatched late in the season, no shelter is required, as they do better in the open; but it is advisable to keep them within a fenced inclosure for the first three or four days until they are strong enough to follow the mother. Weather conditions being favorable, the hen and brood can be given free range after the third or fourth day, but care should be taken to keep them out of heavy dews and to protect them from rain for the first two or three weeks. After this, early morning dews or light showers followed closely by warm sunshine will do little harm, as the poults soon become warm and dry. If cold, damp weather sets in, however, they will need to be kept in dry quarters, for nothing is more fatal to young poults than wet and cold.

### THE TURKEY HEN AS A MOTHER

For poults the turkey hen is the best mother that can be found. She knows their needs and can talk to them in a language that they soon learn to understand. While on free range she keeps her brood together by talking continuously in a contented, purring tone, so that the poults always know where she is. When her poults become widely separated, or if some become lost, and she hears their peep, she calls them with the characteristic yelp heard so frequently during the laying season. They soon learn to find their own feed, however, and range out ahead of the mother hen in search of whatever they can find.

Young turkeys usually remain with the mother hen until about October or November, when the males ordinarily separate from the females and range by themselves. When two turkey hens with broods of about the same age are turned out on free range together they will remain in one flock, and as this makes it easier to hunt them up and care for them it is advisable to turn out two or three hens with their broods together when they are given free range. It is not a good plan to have more than this number of young poults in one flock, however, as they may all try to crowd under one or two hens to be hovered.

### FEEDING THE POULTS

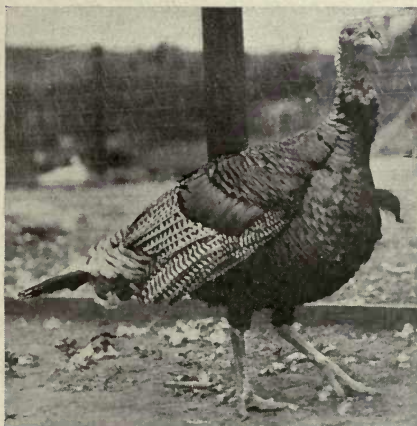
Improper feeding, combined with close confinement, has been the cause of many failures in turkey raising. When on free range the poults are busy searching for feed most of the day. Here there is no overfeeding and lack of exercise, such as the poults are often subjected to by those ignorant of their wants. If the range is plentifully supplied with green feed, grasshoppers, and other insects, and if the weather is favorable, then the best plan is to allow the poults to feed themselves. It is usually advisable, however, to have them come home at night, and if driven up and fed at a certain place every night they will soon learn to come up themselves.

When, on account of rainy weather or unfavorable range conditions, it is advisable to raise the poults by the coop method, more care must be given to their feeding. For the first two days after hatching, poults require no feed, the yolk of the egg which they absorb before breaking out of the shell being sufficient to maintain them for that length of time. Access to clean drinking water and a little coarse sand and green feed to pick at is all that is needed until the third day. Beginning with the third day, the poults should be fed according to the quantity of natural feed they are able to pick up outside the coop. They should always be hungry. To feed all they will clean up several times a day removes the cause of searching for feed, so that little exercise is taken and indigestion is sure to result. When natural feed is scarce, or when the poults have to be kept from ranging outside, they should be fed lightly about five times a day. If allowed to run outside the coop where they can find insects, seeds, and green feed, they need not be fed oftener than two or three times a day.



Successful turkey raisers use many different kinds of feed, some of the most common being as follows:

- (1) Hard-boiled egg chopped fine and corn-bread crumbs for the first week, and then whole wheat and hulled oats.
- (2) Stale bread, soaked in milk and squeezed dry, for the first few days, and then common chick feed.
- (3) Clabbered milk seasoned with salt and pepper, corn-bread crumbs.
- (4) Equal parts "pinhead" oats, whole wheat, and cracked corn.
- (5) Cracked wheat.
- (6) Corn meal and wheat bran mixed in the proportion of three to one and baked into bread.



"GOBBLE"

- (7) Bran or middlings one-half, cracked Egyptian corn one-quarter, wheat and hulled oats one-quarter.

In addition to the above, skimmed milk and buttermilk are quite often fed, with excellent results. A good plan is to keep the milk in front of the poults during the morning and water during the afternoon. If grit and green feed can not be picked up outside the coop, they must be provided in some other way. Chopped onion tops, lettuce leaves, dandelion leaves, and alfalfa make excellent green feed. Grit can be furnished in the form of coarse sand.

While confined to the coop the mother hen should be fed twice a day on a mixture of grain, such as equal parts corn, wheat, and oats, and green feed, while water and grit should be kept before her all the time. An occasional feed of meat scrap or fresh, lean meat is greatly relished and helps to keep her in good condition. In feeding the hen and poults, it is advisable to feed the latter outside the coop and the former inside, in order to prevent her from eating the feed intended for the poults. It is seldom necessary to keep the hen and poults confined for more than a few days at a time, and the sooner all can be given free range the better. Whether or not they should be put into the coop at night after ranging during the day depends on the weather and the danger from predatory animals.

### THE AGE AND SEX OF TURKEYS

At the age of four weeks there is no trace of red on the heads and necks of the poults, but at five weeks the caruncles or comb begin to form, and when six weeks of age a trace of red can be seen forming in the caruncles under the feathery down of the neck; this down is gradually shed from the under part of the neck. At seven weeks the red can be seen at some distance on the under part of the necks of males, but is not plainly visible on females until about the eighth week. It is only by careful comparison, however, that the sex of young turkeys can be distinguished before they are three months of age, at which time a very small, fleshy protuberance appears on the breast of the male, emerging from which the beard or tassel can be seen about two weeks later. At the age of about three and one-half months the beard begins to grow from the breast of the male turkey, and at one year of age it is from three to five inches long, becoming longer each year. When about a year old turkey hens begin to grow beards. The beard of the tom is much longer and coarser than that of the hen, however, and his feathers stop far down on the neck, while in the

case of the hen there is a light growth extending in a rather narrow strip along the back of the neck to the top of the head. The "dewbill", or fleshy appendage just above the beak, is larger and more elastic in the male than in the female. Young toms under one year of age have only a short, blunt knob on the inside of the shank, which, as he grows older, develops into a stout spur, while in the hen only a rudimentary spur or small button is found.

### REARING THE YOUNG TURKEYS

When about six weeks old the young turkeys are old enough to go to roost. Practically all turkey raisers allow the birds to roost in the open trees, or on fences or other roosts especially provided for them. In sections where high winds prevail it is customary to build the roosts next to a barn or shed, where there is some protection; when this is done posts are driven into the ground and poles laid across them four or five feet from the ground. By driving them to the roosting place and feeding them there every evening just before dark, young turkeys can be made to roost wherever desired. For the first few times it is sometimes necessary to keep them under the roost until dark, but they will finally fly up, and after a week or so will no longer have to be driven, but will come up every night to be fed and to roost.

During the summer and early fall turkeys can find an abundance of feed on the average farm. Grasshoppers and other insects, weeds and grass seeds, green vegetation, berries, and grain picked up in the fields, all go to make up the turkey's daily ration. When this natural feed is plentiful, very little need be added until fattening time, except for the purpose of bringing the turkeys every night to roost and to keep them from straying from home. For this purpose one feed of grain every night just before roosting time is sufficient.

One of the greatest difficulties with which turkey growers have to contend is to keep their flocks from wandering over too wide an area and invading neighboring farms. To some extent, feeding heavily night and morning reduces the area over which turkeys range, but even then they often go too far. When trouble of this kind occurs, the most effective plan is to drive them into an inclosure, such as is described for a breeding pen, and keep them there until about noon. In warm weather turkeys do most of their ranging early in the morning and by nine o'clock they are usually as far from home as they will get during the day. As soon as the sun becomes very warm they spend most of their time in the shade until three or four o'clock in the afternoon, when they begin moving toward home, ranging for feed along the way. If the weather is not too warm they do not spend so much time lying in the shade, and consequently range over a larger area and may keep moving away from home until noon. By feeding in the pen every morning they soon learn to go there on coming down from roost, and no time is lost in penning them. If they fly out of the pen after being fed, the flight feathers from one wing should be clipped.

### FATTENING FOR MARKET

In fattening turkeys for the market an excellent plan is to begin about October 1st to feed night and morning, feeding just enough at a time so that the birds go away still feeling a little hungry, and gradually increasing the quantity until they are given all they will clean up three times a day during the week before marketing. By the latter feeding is meant that they are fed until they leave the feed and walk away. Some turkey raisers feed wheat and oats during the first part of the fattening season, gradually changing to corn as the weather becomes cooler. The majority, however, begin feeding heavily on corn about November 1st, and since turkeys are not accustomed to such heavy feeding, scours often result, especially if new corn is used. New corn can be fed safely if the turkeys are gradually accustomed to it by feeding lightly at first and more heavily afterward.

Confining turkeys during the fattening season to prevent their using so much energy in ranging has been tried to some extent, but with very



little success. Those confined to a pen eat heartily for two or three days, but after this they lose their appetite and begin to lose flesh rapidly. On allowing them free range again, they pick up rapidly and are soon eating as heartily as ever. The better method is to allow them free range, as it keeps them in good, healthy condition, and they are always eager to be fed.

Nuts of various kinds are a natural fattening feed picked up by the turkeys on the range. Of these beechnuts, chestnuts, pecans, and acorns are those most commonly found by them.

### MARKETING

In killing and dressing turkeys on the farm they should first be deprived of feed for twenty-four hours, but given plenty of fresh, clean water in order to clean the crop and intestines of all feed. When ready to kill, the bird should be hung up by the feet; holding the bird in one hand a sharp, narrow-bladed knife is used to sever the veins in the throat by making a small cut inside the mouth on the right side of the throat, at the base of the skull. After making this cut and bleeding begins, the knife is thrust up thru the groove in the roof of the mouth and into the brain at the back part of the skull. On piercing the brain the bird gives a peculiar squawk, the feathers are loosened by a quivering of the muscles, and death is instantaneous. In dry picking the feathers should be plucked immediately, and if the bird has been properly stuck they come out very easily. The tail and wing feathers are removed first, after which the body feathers are pulled out. When the turkeys are to be marketed locally or are to be shipped but a short distance they are cooled to a temperature of about 35° F. by hanging in the open air, provided the weather is cool enough; otherwise they are plunged into ice water and kept there until thoroly cooled. After cooling they are packed undrawn in boxes or barrels. It is inadvisable for the producer without proper refrigerating facilities to ship dressed turkeys, as losses from improper cooling and from their being exposed to warm weather during transit are liable to occur. Aside from this it is seldom profitable to ship turkeys any great distance except in carload lots; when this is done the turkeys are cooled to 32° F., packed in boxes or barrels, and shipped in refrigerator cars.

### DISEASES OF TURKEYS

Turkeys are subject to most of the diseases and ailments affecting fowls. Of these the most common diseases are blackhead, chicken pox (sorehead), and roup. Limber neck and impaction of the crop are non-infectious ailments quite often found among turkeys.

Of the parasites lice are the most injurious, especially among young turkeys, and unless some effective means has been taken to destroy them they can usually be found on every turkey in the flock.

### BLACKHEAD

Of the infectious diseases, blackhead is the most destructive among turkeys. This disease first became serious in the New England States many years ago; it is now found to a greater or less extent thruout the Middle West, and occasionally in the South and on the Pacific coast. It is notable that whenever the climate and range conditions are such as to permit of the turkeys foraging for most of their feed from the time they are hatched until they are marketed, cases of blackhead are infrequent. Blackhead occasionally affects grown turkeys, but it mostly occurs among young turkeys between the ages of six weeks and four months.

The symptoms of blackhead are such that unless the bird is killed, and an examination of the internal organs made it is difficult to tell whether the disease is blackhead or some other ailment. The bird drinks a great deal, but refuses to eat and grows steadily weaker until its death, which usually occurs a few days or a week after the sickness is first noted. Diarrhea commonly occurs, and the droppings vary in color from white to brown, but are usually a bright yellow. The head of the turkey some-

times turns dark, and it is from this symptom that the name blackhead originated; this is an unfortunate term, as the head often does not turn dark, and, even tho it does, it merely indicates that the bird is sick from some ailment that may or may not be blackhead. On opening a turkey that has died of blackhead, one or both of the ceca or "blind guts" are found to be enlarged and plugged with a cheesy material, and the liver is more or less covered with spots varying in color from grayish-white to yellow.

As in the case of all other infectious diseases, the sick bird should immediately be removed from the flock to prevent a further spread of the disease, and if very sick it is best to kill it and burn the body. Clean out the roosting place and spread lime in places most frequented by the turkeys. Keep a disinfectant in the drinking water; potassium permanganate is most often used, a sufficient quantity of the crystals being added to give the water a wine color, which, for every gallon of water, will take about as much of the chemical as can be placed on a dime. If the turkeys are being fed heavily, their ration should be reduced, as overfeeding predisposes to the disease. The feeding of sour milk has been found of advantage in keeping turkeys in good health and in reducing the activities of the organism causing blackhead. Free range and care not to overfeed are most important.

### CHICKEN POX

Chicken pox is quite often found among turkeys, particularly when they are raised with fowls. It is characterized by scabby eruptions about the head and spreads quite rapidly from one bird to another. The affected birds should be removed from the flock, the scabs soaked off with warm water, and the sores washed with an antiseptic, such as a two per cent solution of carbolic acid or of potassium permanganate.

### ROUP

Roup is more common among fowls than among turkeys, but the latter are sometimes affected, particularly when they are exposed to drafts and dampness. The first symptoms of roup are those of a common cold, and later a swelling usually develops just below the eyes, giving rise to the name "swell head". Roup is very contagious, and any infected bird should be isolated and the mouth and nostrils washed out with an antiseptic; if there is a swelling under the eyes, it should be opened and the material that has formed there be squeezed out; also, the cavity should be washed with an antiseptic.

In most cases it is advisable to kill any bird sick with anything of a contagious or infectious nature, rather than to attempt treatment and run the risk of spreading the disease.

### LICE

Lice are among the most important causes of the high mortality among young poults, those badly infested becoming gradually weaker and weaker until they die. Head lice cause most of the trouble and are found close to the skin upon the top of the head, above and in front of the eyes and under the throat. Small white lice are also found along the wing bar among the quills of the feathers and occasionally are found below the vent. By dusting the hen when she is set, with some good lice powder, it is a very easy matter to prevent lice from getting a foothold among the poults. If this is not done, the poults are almost certain to have lice. The poults should be examined carefully every few days, and if lice are found about the head a small quantity of lard should be rubbed over the affected parts. This kills the lice by closing their breathing pores. The lice found among the quill feathers along the wing bar and below the vent are more active than the head lice and do not remain so close to the skin. Should body lice be found, the poults should be dusted carefully under the wings and below the vent, about once a week, until the pests are exterminated.



### LIMBER NECK

Limber neck is characterized by a paralysis of the muscles of the neck, caused by the absorption of poison from the intestines. The presence of these poisons is usually due to eating decayed meat or moldy grain, or it may be attributed to indigestion or intestinal worms. A tablespoonful of castor oil to which fifteen drops of oil of turpentine have been added should be administered.

### IMPACTION OF THE CROP

Impaction of the crop is caused by eating indigestible substances, such as feathers, and thus preventing the feed from passing thru. The crop can usually be emptied by first giving a teaspoonful of sweet oil and then working the contents of the crop with the fingers up thru the gullet and out of the mouth, the bird being held with its head down.

## Toulouse Geese

Gander 1 Goose 1	{ San Diego Pure-Bred Poultry and Live Stock Show, Dec. 20-24, 1917.	{ Young Goose 1
	{ Poultry Breeders Assn. of Sou. Cal., Dec. 1917.	{ Young Gander 1 Young Goose 1, 2
Gander 1 Goose 1, 2	{ Poultry Breeders Assn. of Sou. Cal., Jan. 8-14, 1919.	{ Young Gander 1, 2 Young Goose 1, 2, 3
Gander 1, 2, 3 Goose 1, 2, 3	{ San Diego County Fair. Sept. 24-27, 1919.	{ Young Gander 1, 2, 3 Young Goose 1, 2, 3
Gander 1, 2 Goose 1, 2 Special prize best Gander and best Goose	{ Southern California Fair, Oct. 7-11, 1919.	{ Young Gander 1, 2 Young Goose 1, 2
Gander 1, 2, 3 Goose 1, 2, 3 Special prize best display Water Fowl	{ Los Angeles Live Stock Show, Oct. 18-26, 1919.	{ Young Gander 1, 2, 3 Young Goose 1, 2, 3
Gander 1 Goose 1	{ Alameda County Fair, Nov. 1919.	{ Young Gander 1 Young Goose 2
Gander 1, 2, 3 Goose 1, 2, 3 Special prize best display Water Fowl	{ Poultry Breeders Assn. of Sou. Cal., Jan. 7-13, 1920.	{ Young Gander 1, 2, 3 Young Goose 1, 2, 3
Gander 1, 2, 3 Goose 1, 2, 3	{ San Diego County Exhib- itors' Club. Jan. 16-19, 1920.	{ Young Gander 1, 2, 3 Young Goose 1, 2, 3

## Toulouse Geese

It is not necessary for us to say anything about our geese to those who have seen them, as a glance makes one realize that they are hard to surpass. At the numerous shows at which they have been exhibited, **they have taken all prizes.**

This flock consists of imported old geese we have been exhibiting this year, all of which have taken ribbons at large shows. Included in the birds of this pen are Golden Wing, 1st gander, and Wingold, 1st goose, at the Coliseum Show, 1918; also 1st goose at the Illinois State Fair, 1918.

Price, \$1.00 per egg.

We keep the best of our stock for breeders. Any not up to the standard in vigor, size and show qualities are sent to the butcher. Those retained are mated up in pairs and trios.

Price, \$15.00 to \$50.00 each.





"WINGOLD"

## Toulouse Goose Raising

Geese are raised successfully in all parts of the United States. The Toulouse goose derives its name from the city of Toulouse, in southern France, in a territory noted for its geese. The Toulouse is the largest of the standard breeds of geese; the adult gander weighs 26 pounds, the adult goose and the young gander 20 pounds, and the young goose 16 pounds. The color of the plumage is dark gray on the back, gradually shading to light gray edged with white on the breast, and to white on the abdomen. The eye should be dark brown or hazel; the bill pale orange, and the shanks and toes a deep reddish orange. The body is massive, of medium length, broad and very deep, almost touching the ground. The female resembles the male, but is smaller. The Toulouse is a good layer, producing from twenty to thirty-five eggs a year; is docile, grows rapidly, and makes a good market bird.

### SELECTING AND MATING

Geese, like other kinds of poultry, should be selected for size, prolificacy, and vitality. They should be mated several months prior to the breeding season to obtain the best results; therefore, breeding stock should be bought in the fall. Goose matings are not changed from year to year unless the results are unsatisfactory. Sex is difficult to distinguish in geese, especially when they are young. The gander is usually somewhat larger and coarser than the goose and has a shrill cry, while the female has a coarse cry. The male has a heavier, longer neck, and a larger head.

The sex may be determined by inspecting the sexual organs or by the actions of the geese at mating time. The sphincter muscle which closes the anus of the female is folded and winding or sinuous if stretched, while a light pressure on the corresponding section in the male will make the sexual organ protrude. This test is more easily made on a mature male and in warm weather. In common geese the male is lighter colored than the female.

A gander may be mated with from one to four geese, but pair or trio matings usually give the best results. The wild gander usually mates with only one goose.

When mated, geese are allowed to run in flocks. From four to twenty-five geese may be kept on an acre of land, and under most conditions ten is a fair average. Wherever possible the geese should have free range. Many people in the South keep them to kill the weeds in the cotton fields.

Toulouse geese will breed when about two years old, but do not mature for another year. The females are usually kept until they are twelve to fourteen years old, or as long as they lay well, but ganders are not generally kept after they are eight to nine years old; wild ganders, however, are kept as long as they will breed. Geese are usually best for breeding when from three to five years old.

### INCUBATION

Geese are fed a ration to produce eggs during the latter part of the winter (about February 1) or so that the goslings will be hatched by the time there is good grass pasture. They are allowed to make nests on the floor of the house, or large boxes, barrels, or shelters are provided for that purpose. The eggs should be collected daily and kept in a cool place where the contents will not evaporate too freely; if kept for some time they may be stored in loose bran. The first eggs are usually set under hens, while the last ones which the goose lays may be hatched either under hens or under the goose if she goes broody. If the eggs are not removed from the nest in which the goose is laying she will usually stop laying sooner than if they are taken away. The desire to sit can usually be broken up by confining her to a to a slat-bottom coop, with water to drink, but no feed, for two to four days. Some breeders prefer to raise all the goslings under hens, as geese sometimes become difficult to manage when allowed to hatch and rear their young. Hens used for hatching goose eggs must be dusted with insect powder and have good attention, as, in the case of geese, the period of incubation is longer than in that of fowls. Goose eggs may be hatched in incubators and the goslings successfully raised in brooders, altho this is not a common practice.

The period of incubation of goose eggs varies from twenty-eight to thirty days. Moisture should be added to the eggs after the first week if set under hens or in incubators; this is usually done by sprinkling the eggs or the nest with warm water. Incubators should be run at a temperature of 101.5° to 102.5° F., or about 1½° lower than for hens' eggs, and the eggs should be cooled longer. Four to six eggs are set under a hen and ten to thirteen under a goose. They may be tested about the tenth day, and those which are infertile or contain dead germs should be removed. They hatch slowly, especially under hens, and the goslings are usually removed as soon as hatched and kept in a warm place until the process is over, when they are put back under the hen or goose. Some breeders who hatch with both geese and hens give all the goslings to the geese. To keep a record of their age and breeding the web of the feet of the goslings should be punched when hatched. Hens with goslings may be confined to the coop and the goslings allowed to range. The latter, especially if the weather is cold, are not usually allowed to go into water until they are several days old. In mild weather the hens are allowed to brood the goslings for from seven to ten days, when the latter are able to take care of themselves. Some breeders assert that polliwogs in pools will poison young goslings unless the mash or drinking water has been slightly salted before the goslings are



turned out to pasture. Good-sized growing coops, with board floors, should be provided for the goslings, and they must be protected from their enemies. When on range young goslings need some attention, as they may get lost or caught in post-holes and odd corners. Shade should be provided in hot weather. They should not be allowed to run with large animals, as they may be injured or killed.

### FEEDING GEESE AND GOSLINGS

Geese are generally raised where they have a good grass range or pasture, as they are good grazers, and, except during the winter months, usually pick up most of their living. The pasture may be supplemented with light feeds of the common or home-grown grains or wet mash daily, the necessity and quantity of this feed depending on the pasture. Goslings do not need feed until they are twenty-four to thirty-six hours old, when they should be fed any of the mashes recommended for chickens or ducklings, or a mash or dough of two-thirds shorts (middlings) and one-third corn-meal, which can be made equal parts shorts and corn meal, and five per cent of beef scrap added after six weeks. Bread and milk is an excellent feed for young goslings. Fine grit or sharp sand should be provided for goslings by feeding five per cent of it in their mash or keeping it in a hopper before them. If the goslings are to be fattened, the ration should be changed to one-third shorts and two-thirds corn meal by weight, with five per cent of beef scrap added, while a feed of corn should be given at night. Most geese breeders do not confine their geese for fattening, but feed them freely a few weeks on a fattening ration before they are to be marketed. The geese may be confined for two or three weeks and fattened, but some green feed or vegetables should be added to the ration.

Adult geese may be fed for eggs about February 1 on a mash of one pound of corn meal, one of bran, one of middlings or low-grade flour, and ten per cent of beef scrap, which is fed in the morning; equal parts corn and wheat, or corn alone, is fed at night. Grit and oyster shell should be kept before geese when they are laying and may be provided all the time to advantage. A constant supply of drinking water should be available for both goslings and geese. Drinking fountains or pans should be constructed so that neither goslings nor older stock can get their feet into the water. If the geese need extra feed when not laying, the beef scrap should be left out and the quantity of corn meal increased to three parts. Any available roughage, such as cut clover, hay, alfalfa, silage, cabbages, mangel-wurzel beets, or any waste vegetables should be added during the winter months, or whenever no good pasture is available. The time to feed for eggs depends upon the method of handling the geese, the section of the country, and the weather conditions, as goslings are usually hatched when the pastures are good.

### PREPARING FOR MARKET

Young geese, when fully feathered, are fattened in large numbers by buyers who make a specialty of this business. Several methods are used successfully in this special fattening of geese on a large scale. Six to eight geese are confined for three weeks in a pen and fed by hand five times daily on a mixture of two parts corn meal and one part of ground wheat and sifted ground oats, mixed with enough low-grade flour or "red dog" to make a stiff batter when water is added. This mixture is put thru a sausage stuffer, cut into pieces two inches long and one inch thick, rolled in flour, and cooked like dumplings. This is fed warm, but after cooking the pieces are dipped in cold water to keep them from sticking together. Another method used is to confine the geese to large pens in a shed for from three to five weeks and keep whole corn in hoppers before them all the time, using oat straw for bedding. Considerable of the oat straw is eaten by the geese and serves as a good source of roughage. Corn silage may also be used for roughage.

A goose should be handled by its neck rather than by its legs and held with the back toward the attendant. In France and Germany a spe-

cialty is made of producing fattened goose livers, weighing from twelve to thirty-two ounces, by cramming geese which are about six months old on boiled corn. Some of these livers are preserved and called "pates de foie gras".

Before marketing the young geese the average farmer can feed advantageously a fattening ration either on grass range or confined to small yards, but it is doubtful whether it would pay him to confine them to individual or small pens and make a specialty of fattening unless he has a special market or retail trade for well-fattened stock. Young geese are in fair demand from June to January, while the demand is usually best at Thanksgiving and very good at Christmas. Ten-weeks-old goslings of the largest breeds of pure-bred geese weigh as much as ten pounds if forced for rapid growth, and may often be marketed at this age to advantage. It is said to cost from three to six cents a pound to raise geese to eight to ten pounds weight.

Geese are usually killed and picked in the same manner as other kinds of poultry. They are generally stuck in the mouth with a long-bladed knife and then stunned by a blow on the back of the head with a short club. The wings are picked to the first joint, and the feathers are removed from the neck halfway to the head. The soft pinfeathers and fine down may be partly removed by rubbing the body with moistened hands or by shaving the skin. Geese may be steamed after killing by hanging on hooks in the top of a steam box or barrel, which can be made air-tight, and left there until the soft feathers on the breast come off easily. The length of time to leave them in the steam barrel depends on the flow of the steam, varying from one-half to two minutes. The wing and tail feathers are pulled before the geese are steamed. A good method for removing the down is to sprinkle powdered rosin over the body of the goose and dip it into hot water, which melts the rosin so that it and the down can be easily rubbed off, leaving the body clean. Geese may also be steamed by scalding slightly and wrapping the body tightly in burlap or cloth to allow the steam to work thoroly thru the feathers. Some markets prefer dry-picked geese, while in other markets no difference is made in the price of scalded or dry-picked geese.

After the geese are picked they are usually washed and put into ice water for one to two hours to cool and become plump. Many farmers sell their geese alive. When dressed poultry is shipped from the farm it should be first cooled and then packed in clean containers, which can be packed in ice and shipped by express in such a way that the poultry does not come in contact with the ice or drippings. It costs about eleven cents each to pick geese. Goose feathers sell at from thirty cents to one dollar a pound and should be carefully saved and dried. White are worth considerably more than mixed-colored feathers. Scalded feathers are not usually considered of any value, but steamed ones are as good as the dry-picked.

Nearly all breeders of geese in the South and many in the Middle West and the North pluck the feathers from the live geese at some time prior to molting. Some pick as often as every six weeks during the spring, summer, and early fall, while others pick only once or twice a year, either in the spring or both in the spring and in the fall. Feathers are considered ripe for picking when the quills appear dry and do not contain blood. The average yearly production of feathers per goose is about one and one-tenth pounds. This practice of plucking geese, however, is considered by many breeders to be cruel and injurious. Geese should not be picked during the breeding season.



## White Muscovy Ducks

Old Pen 1 Special prize best display.	San Diego Pure-Bred Poultry and Live Stock Show, Dec. 20-24, 1917.	Young Pen 1
Drake 1 Duck 1, 2, 3	Poultry Breeders Assn. of Sou. Cal., Dec. 1917.	
Drake 1, 2 Duck 1, 2	San Diego County Fair. Sept. 24-27, 1919.	Young Drake 1, 2 Young Duck 1, 2
Drake 1 Duck 1, 2 Special prize best Drake and Duck	Southern California Fair. Oct. 7-11, 1919.	Young Drake 1 Young Duck 1, 2
Drake 1, 2 Duck 1, 2, 3 Special prize best display Water Fowl	Los Angeles Live Stock Show, Oct. 18-26, 1919.	Young Drake 1, 2, 3 Young Duck 1, 2, 3
Drake 2, 4 Duck 1, 2	Alameda County Fair. November, 1919.	Young Duck 2, 4
Drake 1, 2, 3 Duck 1, 2, 3 Special prize best display Water Fowl Best Pen	Poultry Breeders Assn. of Sou. Cal. Jan. 7-13, 1920.	Young Drake 1, 2, 3 Young Duck 1, 2, 3
Drake 1, 2, 3 Duck 1, 2, 3 Pen 1	San Diego County Exhibitors' Club. Jan. 16-19, 1920.	Young Drake 1, 2, 3 Young Duck 1, 2, 3

## Pekin Ducks

Drake 1 Duck 1, 2	San Diego County Exhibitors' Club. Jan. 16-19, 1920.
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## White Muscovy Duck

We have in our breeding pens drakes which, in show condition, weigh between fourteen and sixteen pounds. Our drakes and ducks have been winning prizes for several years.

We have been raising Muscovy Ducks on our ranch for a number of years, always with the one idea in mind of perfecting them, first, for size, second, for vigor, and third, to produce a strain of winners. Our success is shown by our winnings.

Several judges who have given our birds prizes at various shows have said they were the best stock they have seen on the coast.

Eggs, 35c each.

Single Drakes, \$5.00 to \$10.00. Ducks, \$5.00 each.

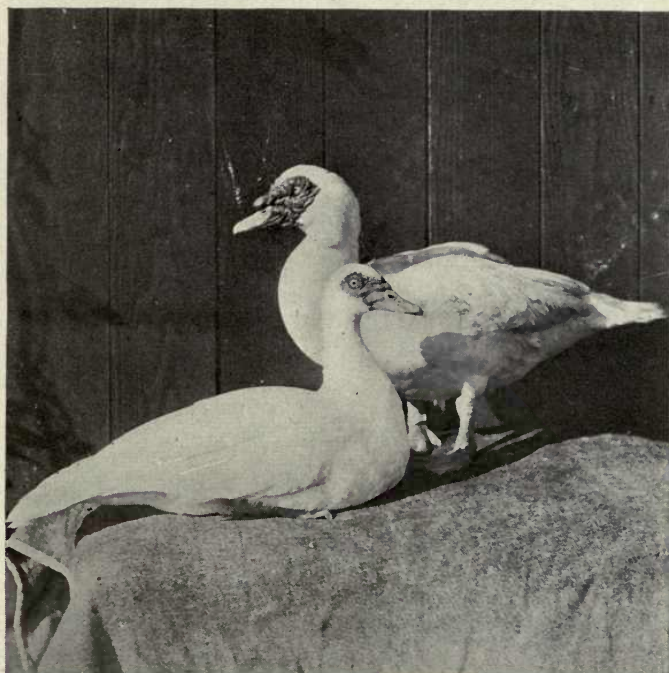
## Pekin Ducks

This pen of ducks consists of the best stock we could obtain, and are prize winners of some of the large eastern shows. These birds have become acclimated, and we have only a limited number of eggs to sell.

Eggs, 35c each.

Single Drakes, \$5.00 to \$10.00. Ducks, \$5.00 each.

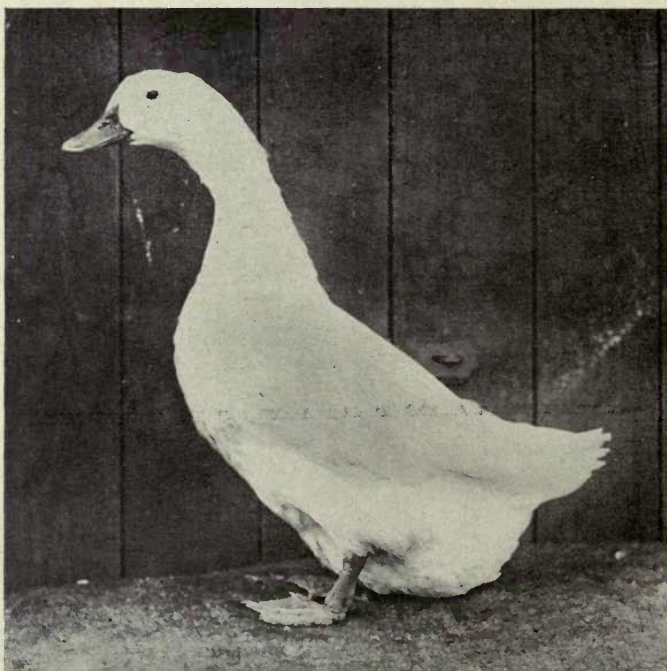




WHITE MUSCOVY DUCKS (Male Standing - Female Sitting)

## The Muscovy Duck

There are two standard varieties of Muscovy ducks, the white and the colored. This breed originated in South America and is considered by some writers to be of a different species from our other ducks, altho in some cases it may be crossed with our domestic varieties of ducks, producing hybrids which are sometimes fertile. The head and face of the Muscovy are partly bare, with red, rough, carunculated skin. It has a long, broad body, with greater breadth but less depth and less keel development than the Pekin. The drake should be at least one-third larger than the duck, as the standard weight of the adult drake is ten pounds and that of the duck seven pounds. This white variety has a pure white plumage, pale orange or yellow legs, and a pinkish, flesh-colored beak. The breed is a wide forager, requires very little care, and can be kept with fair success on general farms.



PEKIN DUCK

## The Pekin Duck

The Pekin duck is kept almost exclusively by commercial duck farmers in the United States who make a specialty of producing "green" ducks; it is also the most popular breed on general farms. Green ducks are ducklings which are grown rapidly and marketed when they are from eight to twelve weeks old, when they weigh about four and one-half to six pounds apiece. If not sold at that time, the market quality of their flesh depreciates while their weight decreases, and it takes several weeks to get them back into good market condition.

The Pekin duck originated in China and was introduced into this country about 1875, where it soon became the most popular breed on commercial duck farms. The introduction of the Pekin practically marks the beginning of intensive commercial duck farming in the United States. This breed has a creamy white plumage, a long, broad, and deep body, with a full breast and deep keel (the part extending backward from the breast). The color of the skin is yellow, the shanks and toes should be reddish-orange, and the bill orange-yellow, free from black. The standard weights of the adult drake and duck are nine and eight pounds respectively. Pekin ducks are hardy, are fair layers, practically non-sitters, and especially adapted for the production of flesh. They are very docile, easily confined by low fences, and well adapted either for commercial duck farming or as a side issue on general farms.



# Ducks

## SELECTING AND MATING

Ducks are usually mated in flocks of about thirty females with five or six males. The number of males may be reduced to one for every seven females about the first of March and again changed a month later to one male for eight to ten females. Active, healthy females of medium size should be used for breeding; that is, weighing about eight pounds when mature. Only mature females should be used as breeders. Select ducks with short necks, medium long bodies, flat back, and of good depth to the keel bones. Watery eyes are usually a sign of weakness in ducks. The drake is usually coarser and more masculine in appearance than the duck and has a distinct curl in his tail feathers. Ducks should usually be sold after they are two years old, altho the best breeders or layers may be kept over their third year. In holding ducks pick them up by their necks rather than by their legs, as the latter are apt to break easily. Ducks lay their eggs early in the morning, and should be confined to the house or pen until 9:30 or 10:00 o'clock in the morning. If allowed to roam early in the morning they may lay in a pond or stream and the eggs may be lost.

## INCUBATION

The period of incubation for ducks' eggs with the exception of Muscovy Ducks, which takes from thirty-three to thirty-five days, is twenty-eight days. The eggs may be hatched either naturally or artificially, but on practically all of the large duck farms the hatching is done in incubators. Strong, fertile eggs are a prime essential in good hatching and are obtained only from stock properly mated and kept under the best possible conditions to secure health and vigor. Eggs from overfat breeding stock do not usually produce a large percentage of strong ducklings. Ducks' eggs should be washed if dirty, which does not appear to injure their hatching qualities.

Before setting a hen dust her thoroly with insect powder. In applying this powder hold the hen by the feet, with her head hanging down, and work it thoroly into the feathers, giving special attention around the vent and under the wings. If several hens are sitting in the same room, confine them on the nests, only allowing them to come off once a day for feed and water. Sitting hens should be fed whole or cracked grains, such as corn or wheat. Place nine to eleven ducks' eggs under a hen, depending on her size and the season of the year, using the smaller number of eggs in cold weather and the larger number in warm weather. Confine the hens at hatching time and do not disturb them until the hatch is completed, unless they become restless, when it may be best to remove the ducklings that hatched first. It usually takes ducklings from twenty-four to forty-eight hours to hatch, after they pick the shells; therefore it is advisable to allow the hen to get off the nest for feed and water when the first ducklings pick the shell and then confine her to the nest until the hatching is over. Ducks' eggs need more moisture than hens' eggs at hatching time, as it takes the ducks much longer to get out of the shell. The eggs should, therefore, be sprinkled with warm water previous to hatching.

Incubators for hatching ducks' eggs are usually kept at a slightly lower temperature than for hens' eggs. Keep the machine at 102° F. for the first three weeks and 103° F. for the last week. The temperature may go above 103° F. and sometimes will go as high as 104° F. at hatching time. It is usually advisable to supply moisture for ducks' eggs during the last week or ten days of incubation. This depends upon the make of the incubator, on the climate, and especially on the humidity of the place where the incubator is operated. Many methods are used to supply moisture in incubation, such as sprinkling the eggs with warm water heated to about 100° F. or placing a pan of water, a receptacle containing moist sand, or a

wet sponge below the egg tray. Another common method of supplying moisture is to sprinkle or soak the floor of the incubator room or to place a pail of warm water under the lamp. It is advisable to shut the machine up tightly at hatching time, so that the moisture will be retained in the incubator, as it takes ducks' eggs some time to hatch after the shells are pipped.

The eggs are usually turned twice daily after the second and thru the twenty-sixth day and cooled once daily after the seventh and thru the twenty-sixth day. After turning the eggs, reverse the egg trays end for end and from one side of the machine to the other. The length of time to cool eggs depends upon the temperature of the incubator room and the day of incubation, but a good general rule is to leave the eggs out of the incubator until they feel slightly cool to the hand, face, or eyelid. When the ducklings are all hatched, remove the egg tray and open the ventilators, but keep the ducklings in the incubator from twenty-four to thirty-six hours after the hatch is over before removing them to the brooder.

### TESTING EGGS

All eggs should be tested at least twice during incubation, preferably on the seventh and fourteenth days, and the infertile eggs and those with dead germs removed. Dead germs in duck eggs decompose very rapidly and are often detected by their odor. Duck eggs having pure white shells are often tested as early as the fourth or fifth day and the infertile eggs sold to bakers. Infertile eggs make good feed for ducklings, and are often used for culinary purposes. The eggs are tested with the large end up, so that the size of the air cell may be seen, as well as the condition of the embryo. Testing should be done in a dark room. The infertile egg when held before the tester will look perfectly clear, much the same as a fresh egg, while a fertile egg will show a small dark spot known as the embryo, with a mass of little blood veins extending in all directions, if the embryo is living, but if dead the blood settles away from the embryo toward the edge of the yolk, forming in most cases an irregular circle of blood known as a blood ring. The eggs containing strong, living embryos are dark and partly filled up after the fourteenth day, and show a clear, distinct line of demarcation between the air cell and the growing embryo, while dead germs show only partial development and lack this clear, distinct outline.

### BROODING

Ducks are much easier to brood artificially than chickens, but they may also be raised under hens successfully. If raised by the latter method, it is advisable to confine the hens and allow the ducklings free range, as the hens are apt to wander too far away with their broods. Ducklings which are to be sold as green ducks are not usually allowed much range, but are fed heavily and forced for rapid growth. The ducklings which are to be kept for breeding should have the web of their feet punched, using a different number of punch marks for each year so that their age can be readily determined.

After the ducklings have been confined to the incubator for twenty-four to thirty-six hours after hatching, remove them to the brooder and give them their first feed. The brooder should be operated at a temperature of about 95° F. at first and gradually reduced to 80° or 85° within a week or ten days. The temperature may be reduced quite rapidly, depending on the season of the year. Aim to keep the ducklings comfortable. When uncomfortable they will crowd together and try to get nearer the heat, but if comfortable they will spread out under the hover. The ducks should be confined around the hover at first until they have learned to return to the source of the heat. In the winter green ducks usually require heat until they are marketed, but later in the season artificial heat may be removed after two to four weeks. Cool brooder houses are used early in the spring for the ducklings after they are four to six weeks old.



The brooders and brooding systems used for chickens give good results in rearing ducklings. Ducklings do not require as high temperatures as chickens, and very loose hovers are generally used.

### FEEDING DUCKLINGS

Ducklings do not need feed until they are from twenty-four to thirty-six hours old, after which they may be fed five times daily on a mixture of equal parts, by measure, of rolled oats and bread crumbs, with three per cent of sharp sand mixed in the feed. About the third day this feed is changed to equal parts bread, rolled oats, bran, and corn meal; then after the seventh day to three parts of bran, one part each of low-grade wheat flour and of corn meal, ten per cent of green feed, and five per cent of beef scrap, with about three per cent of sand or grit in all of the rations.

Feed four times daily after the seventh day until the ducklings are two or three weeks old, when they need be fed only three times daily. After the ducklings are a week old the grit or sand may be fed either in the mash or in a hopper, but the common practice is to feed grit in all duck rations. Beef scrap is not usually fed until the ducks are a week old, when about five per cent is added to the ration, which amount is gradually increased to fifteen per cent by the end of the third week. They should also be given a good-range where grass and running water are available; if confined to bare yards, considerable green feed and vegetables should be fed.

The ducklings to be marketed should be fattened for two weeks before killing on a ration made of three parts, by weight, of corn meal, two parts of low-grade flour or middlings, one part of bran, one-half part of beef scrap, with three per cent grit and ten per cent green feed. Feed this mash three times daily, or use a mash of three parts corn meal, one part low-grade wheat flour, one part bran, five per cent beef scrap, and three per cent oyster shell, with the green feed and grit added. The green feed is sometimes left out of the ration during the last seven days of fattening, as it tends to color the meat and may produce a slightly flabby rather than a firm flesh; however, it is easier to keep the ducklings in good feeding condition on a mash containing green feed. Boiled fish may replace the beef scrap, but should only be fed up to within two weeks before they are killed, as it may give a fishy taste to their flesh. Fish aids materially in reducing the cost of feeding.

Green ducks are marketed at from eight to twelve weeks of age, according to their condition and weight. Two or three per cent of oyster shell is recommended in most fattening rations, but bone ash, ground or cracked bone, or bone meal would appear to be better mineral feeds to add to these mixtures. Celery seed is also used in fattening.

### FEEDING BREEDING AND LAYING DUCKS

Breeding ducks, if not kept for the production of market eggs, should have a grass range if possible after the hatching season is over and be fed sparingly on a mash of one part, by weight, corn meal, two parts bran, one part low-grade wheat flour, one part green feed, eight per cent beef scrap, and three per cent grit, given once or twice daily, with one feed of mixed grains; or the mash may be made of three parts, by measure, corn meal, four parts bran, two parts low-grade wheat flour, three-fourths of a part beef scrap, and two parts of green feed, with a small amount of grit and shell or mineral matter. All rations are by weight unless otherwise stated.

Cut alfalfa, clover, rye, oats, and corn are used as soiling crops or green feed for ducks and ducklings, and are mixed in the mash. Ducklings and ducks are usually fed mash on flat feed boards rather than in troughs. The drinking water should be near the feed, so that the ducks can eat and drink at about the same time. Water fountains for ducks, should be deep enough to allow the latter to get their bills into the water to wash sand or grit out of their nostrils.

Wet or moist mashes are used almost exclusively, but as they are more forcing than whole grains it might be advisable, in case many of the

eggs are infertile, to feed more whole or cracked grains and less mash to ducks during the breeding season.

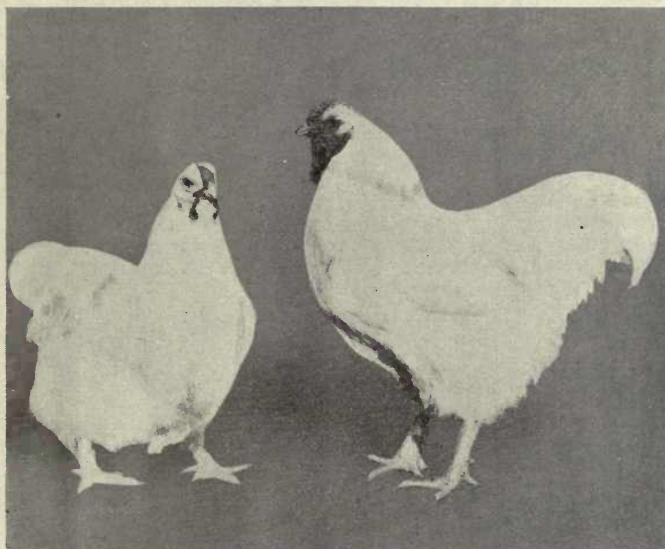
### PREPARING DUCKS FOR MARKET

Ducks may be dressed by dry picking, by scalding, or by steaming. The ducks are generally killed by sticking in the mouth or thru the throat with a knife which has a narrow blade about four inches long, and then stunned by a blow on the back of the head with a short club; the knife may be inserted just back of the eye. Long pinfeathers usually are removed with a dull knife, and the down sometimes is rubbed off with the moistened hand, burned with alcohol, or shaved with a very sharp knife.

Ducks may be steamed and picked, thus saving the feathers without artificial drying; and as duck feathers are of considerable value, their sale is quite an important item. The wing and tail feathers are pulled before steaming the ducks. Six or eight ducks, which have been stuck and hung up to bleed, are placed on hooks in the top of a steam box or barrel which can be made air-tight and steamed until the soft feathers on the breast come off easily. They should be left in the box from one-half to two minutes. A good method for removing the down is to sprinkle powdered rosin over the duck's body and dip the bird into hot water, which melts the rosin so that the down and rosin can be rubbed off easily with the hand.



# White Wyandottes



WHITE WYANDOTTES

Pen 1	{ San Diego Poultry and Pet Stock Show. Dec. 22-24, 1917.	{ Cockerel 1 Pullet 1, 2, 3, 4
Cock 2 Hen 4	{ Poultry Breeders Assn. of Sou. Cal. Jan. 8-14, 1919.	
Cock 1 Hen 1, 2, 3 Pen 1	{ San Diego County Fair. Sept. 24-27, 1919.	{ Cockerel 1 Pullet 2, 3
Cock 2 Hen 3 Special ribbon for pen, Nat. Wyandotte Club. Special ribbon for pen, Wyandotte Club of Calif.	{ Southern California Fair. Oct. 7-11, 1919.	{ Cockerel 5 Pullet 5
Cock 3, 4 Hen 5	{ Los Angeles Livestock Show. Oct. 18-26, 1919.	
Cock 2, 3 Hen 3, 4, 5 Pen 1	{ San Diego County Exhibitors' Club. Jan. 16-19, 1920.	{ Cockerel 1, 3 Pullet 2, 3, 4

Our eggs are \$3.00, 2nd pen; \$5.00 for 1st pen, a setting.

# The White Wyandotte

## An American Bird

The White Wyandotte is superior to other breeds of chickens in so many ways, it is not necessary to say this breed is the favorite among poultry men. The Wyandotte has been admitted to the Standard of Perfection since 1888, and is an all-American bred bird. Much improvement has been made in the last few years in type, color, and points. They stand in a class by themselves for a general-purpose fowl. Not only have they beauty, but as layers and breeders they are almost unexcelled. They are hardy, small eaters, and one of the best market varieties. If you are contemplating going into the chicken business, let the experience of others be your experience and choose a breed that has already been proven to be one of the best in all ways.

The Wyandotte is profitable to the small and the large farmer alike. It accustoms itself as easily to close quarters as to a large range. Not only do they stand confinement well but they are good foragers. They are not flighty and inclined to fly over fences.

It has been proven in egg-laying contests held in the United States, Canada and Australia in the past few years, that the Wyandotte is one of the most prolific layers, and that they return the most profit above cost of feed. They are not only good layers but persistent layers, and when many of the other breeds have already stopped laying and eggs are the highest, the Wyandotte continues to produce. They are all-year-round layers.

The maternal instinct in Wyandottes is strong, and they make excellent mothers. Nevertheless, they are broken up from setting without difficulty when desired. Altho they are large and can cover a good clutch of eggs, they are not so heavy and awkward as to injure the eggs. The youngsters mature early and will lay at six months old.

As a market fowl the Wyandotte is far ahead of all other varieties. They have won first place at Boston as a table fowl for a number of years. Whether they are cooked as a broiler or a matured bird they are juicy and of excellent quality. After a hen is too old to lay, she can be fattened for the table and will command a satisfactory price.

Those who raise poultry for pleasure instead of profit have in the Wyandotte the ideal bird. They are intelligent, tractable and are easily tamed. They have that beauty, that in a show room they do not fail to attract the attention of one and all. The full breast, broad back, short thick legs, short thick comb, and graceful carriage goes to make up one of the most attractive of breeds.

It is not necessary to say that a vigorous and hardy bird is more profitable to a farmer than one which cannot resist the cold or disease. In the Wyandotte we have a bird that can withstand sudden and severe weather. It is not necessary to house them with all the precautions taken with the lighter, more susceptible breeds to avoid roup and similar diseases. Wyandottes are small eaters and good foragers.

The Wyandotte has so many assets, you who intend to raise poultry, cannot made a mistake in choosing this breed. But whether you breed for eggs, meat, or feathers, purchase only the most vigorous type for your foundation. It is not necessary to say, that a poor foundation will give you poor stock no matter how many features this or any other breed has in its favor.



## The Advantages of Early Hatching

There are several advantages in hatching early. (1) The most important of these is the absence of the great amount of vermin which one has to fight constantly in raising late chicks. (2) The winter rains have practically washed the ground clean and brought up tender shoots of grass and other green stuff which is so necessary for young chicks. (3) By fall, when eggs are the highest price and most in demand, the pullets start to lay. (4) If the cockerels are caponized they are ready for the Thanksgiving and Christmas markets. (5) Early hatching is an advantage to fanciers, because birds are well matured and in the best condition for the fall and winter shows. (6) When one is raising chickens on a ranch as a side issue, if hatched early, they are strong enough to need little more care when the major part of the farm work on the ranch begins.

It would take such a large volume to cover the raising of baby chicks and the care of chickens thoroly, we have merely touched on the subject. For further information we refer you to the United States and State Departments of Agriculture, who will be glad to send you pamphlets on this subject for the mere asking.

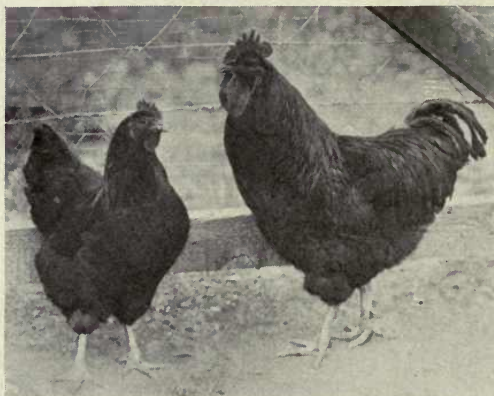
## The Advantage of Late-Hatched Eggs

After May 15th we sell our Wyandotte eggs at half price. If you understand the care of your birds, you can be as successful with late-hatched as early-hatched birds. There are a number of advantages of late hatching. Eggs in the summer are cheap and most of the hens are broody at this time. Green feed as well as bugs is abundant. In the summer there is no danger of either eggs or chicks being chilled. It is said that late-hatched birds are more likely to have better color than those hatched early.

### CARE OF THE HEN AND CHICKS

The hen should be given the preference of the incubator for late eggs, as incubation chicks are more subject to bowel trouble in the summer. The hen should be set in a cool place and the nest made from earth. It is most important that the hen be kept free from lice. She should be dusted two or three times while setting. After the eggs hatch, the mother and brood should be put in a shady place where the chicks can run in and out to the hen. Close them in at night and do not release them in the morning until the dew is off the grass. Toasted bread rolled into crumbs and mixed with charcoal and grit is excellent food for newly-hatched chicks. A dry mash should be provided for all times. A ground grain feed for chicks should be given after the first few days. Grit, charcoal and fresh water should be available at all times. No feed should be given that tends to cause bowel trouble. At the first sign of bowel trouble, place a cure in the water. Provide green feed plentifully. As the chicks become older, search them for head lice. To prevent this trouble, rub carbolated vaseline on the top of the head, back of the neck, and at the base of the beak. When the cold weather sets in, the chicks must be housed, but crowding should be avoided.

If the above rules are followed carefully, it is a simple matter to raise late-hatched chicks.



PARTRIDGE ROCKS

## Partridge Plymouth Rocks

Combining commercial and artistic values in a measure equalled by few other fowls, the Partridge Plymouth Rock is one of the most highly recommended breeds on the market. Well formed and symmetrically marked with pencilings of unusual beauty, the Partridge Plymouth Rock is one of the most attractive show birds of the new breeds, and will catch the eye of both trained and amateur fanciers more quickly than less radically marked fowls. Their egg laying records and strong disease resisting bodies commend them to the man who is after stock that will produce the greatest possible financial returns.

From the commercial standpoint, important features of the Partridge Plymouth Rock are egg productivity and fertility, strength to produce strong chicks and a continuity of the characteristic strain as well as power to resist the inroads of disease, weight and general fitness as a table fowl. Modern chicken producers are beginning to realize the commercial advantages of well-bred stock from the standpoint of marketing parent stock for new flocks. Recent propaganda has taught the beginning that success depends upon starting out with well-bred stock and in avoiding mongrels, and many breeders are deriving good incomes from this source.

For breeding purposes the Partridge Plymouth Rock has a distinct advantage in its faculty for producing a clean, characteristic strain, with true markings, symmetrical bodies and good style. This is true of few breeds and is a feature that makes strong friends.

As a show fowl, the brilliant plumage, proud carriage and sturdy form of the Partridge Plymouth Rock give him many advantages. Moulting season leaves this breed always with brighter, truer markings, and it is seldom necessary to spend time washing and preparing a show bird as must be done with other breeds.

Active and a good forager, a prolific layer of fertile eggs, plump, a full-bodied table fowl, a beautiful bird for the suburban home, yard or show, the Partridge Plymouth Rock is an all-around success, and has an unsurpassed prize winning record from the big shows.

Eggs, \$5.00 setting.



## White King Pigeons

It was only after the most careful study that we decided upon the White King as the pigeon with which to stock our yards. We spent four years experimenting with four of the best known commercial breeds before we chose the White King as being the best bird in all ways.

In purchasing our flock we selected the best birds we could obtain. We have been breeding them for several years, culling out all birds which were not prolific, or did not come up to the standard fixed by the White King Pigeon Association.

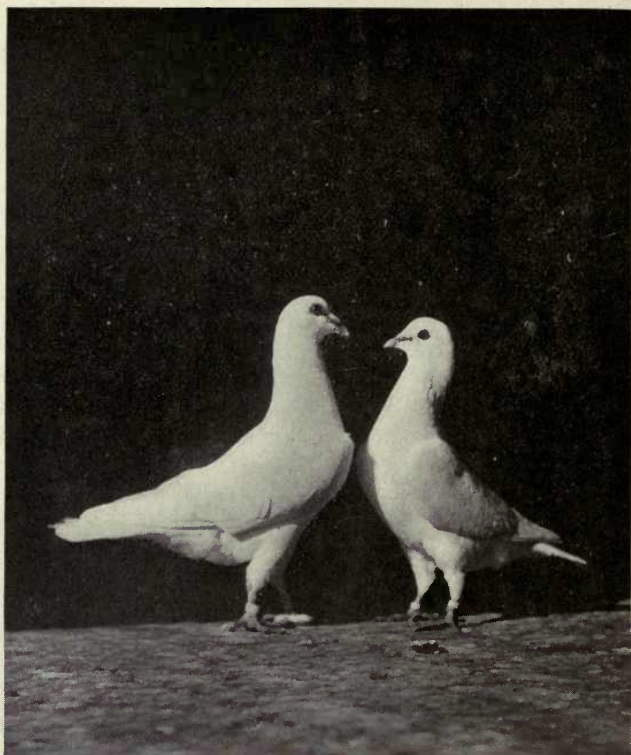
The results we have obtained from most careful mating, retaining only the most vigorous squabs for breeders, and culling out those not prolific, have been most gratifying, and we can now offer to our customers birds that are truly high-class in every respect.

Unmated pairs, \$2.00.

Working mated pairs, \$3.00.

## White King Pigeons

Cock 1, 2, 3	{	San Diego County Fair.
Hen 1, 2, 3		Sept. 24-27, 1919.
Cock 1, 2, 3	{	Southern California Fair.
Hen 1, 2, 3		Oct. 7-11, 1919.
Cock 1, 2, 3	{	Los Angeles Livestock Show.
Hen 1, 2, 3		Oct. 18-26, 1919.



PAIR OF 1919 WHITE KINGS  
Weight of Cock 25 ounces, Hen 23 ounces

## Descriptive Standard of Ideal White King

Years of scientific line-breeding by American fanciers with a definite standard or ideal to attain, resulted in the formation of a new breed of pigeons of unquestionable merit. Altho this breed, quite appropriately called the White King, is a composite of breeds in various classes, so completely have the different types and characteristics been harmonized, that present-day specimens have few birthmarks to indicate the heterogeneous parentage.

The White King is a middle-weight pigeon, neither so large as to be cumbersome and slow breeding, nor yet so small as to appear insignificant among the larger breeds. Its attractive appearance is emphasized by the remarkable development of the deep, well-rounded breast, the broad, strong back, the compact, plump body, and the short well-set legs. It is a breed of curves, with each section of the body blending easily into another, and, when these rounded sections are seen in the harmonious grouping found only in the White King, the highest type of physical beauty is portrayed.

A delineation of the revised standard of the White King as adopted by the American White King Association will be instructive to numerous breeders who have not in their mind's eye a clear-cut picture of the ideal exhibition White King, and who wish to select for the show room a few



specimens that will please judge and exhibitors and prove an honor to their loft.

Let us first discard those specimens that are unworthy of consideration. The remainder can then be critically judged by the standard, weighing the defects of each specimen carefully, and deciding after this close study, what bird in each class—cock, hen and youngster—is the best all-round White King. At this time forget that you own the birds. Judge them as they will be judged by the man who hangs the ribbons at the show.

Discard all birds with pinched breast, narrow body or those showing a "knock-kneed" tendency; all that have a long body or long tail or long head and beak; those specimens in which the eye cere (bare flesh around the eye that separates it from the feathers of the head) is white or pale pink color, and all birds with feathers or down on legs or feet.

The body of the White King is moderately short, broad, deep, well-rounded and carried horizontally. The breast or chest is unusually prominent, broad, full deep, and round. The back is short and broad its entire length. The tail is rather short, broad, full, carried parallel to the ground and on a line with the lower portion of the body.

The full-breasted, blocky, wide-backed, broad-tailed White King is the ideal to earnestly strive for, not only in exhibition birds, but for utility specimens as well. The latter will produce plump, attractive squabs more rapidly and more economically than long-bodied, long-tailed White Kings. Bear in mind that it requires four times as much nourishment to grow feathers as meat, and long-feathered, long-bodied squabs are rarely plump-breasted.

The head of the White King male should be rather large and broad, with a round, full skull and prominent forehead. No characteristic, except the unsightly long body recently referred to, so greatly detracts from the knightly appearance of the White King male as a small, insignificant head. The eyes are large, prominent, and of reddish-brown or dark hazel color. The cere is of medium size, perfectly round, fine in texture, and of beet-red color. The beak is stout, of medium length and pinkish-white in color. The wattle is rather small, smooth in texture, the same color as the beak, with a light frosting of white on the upper surface.

As the eye of the White King appears almost black in color from a short distance, the narrow band of red that encircles the eye (forming the beet-red cere) adds just the touch of color needed to beautify and brighten the white plumage of the head. Birds with white or pale-colored ceres look commonplace in comparison.

The thighs are of medium length, set well back under the body and well apart. The legs are short, stout in bone, and free from feathers or down. The toes are long, straight, well spread, and free from feathers or down. Legs and toes are blood-red color.

Until the adoption of the standard of the American White King Association, it sometimes happened that White Kings with a few feathers on their feet were awarded prizes at the exhibitions. Permitting birds with this serious defect, even tho they were of excellent type in other sections, to win any prize at an exhibition, was a blunder the evil effects of which are revealed at most inopportune times. The only way to produce clean-legged, exhibition White Kings is to breed from a cock and hen of line-bred, clean-legged ancestry. Obtain your flock of show birds from a few pairs of pedigreed stock that produce red-cered, clean-legged youngsters of blocky type, rather than from a large flock of breeders of various types and characteristics. The birds with feathers on their feet are usually sold as "utility stock", and for this purpose are equally satisfactory and less expensive than exhibition stock. A "knock-kneed" White King is only fit to eat. Stout legs and long-straight toes increase the stability and add to the appearance of any bird.

The plumage is very close, short, smooth and firm. Looseness of feather is a serious defect. The web, quill and fluff of the feathers in all sections is pure white.

The wings are comparatively short, well-folded, ending considerably in front of and resting on the tail. The front of the wing (wing butt) is embedded in the plumage of the breast. Covering the fronts of the wings with the breast feathers obliterates that racy frontal appearance seen on all varieties of Homers. The records of the White Kings are not made in the air.

Exceptionally large or small specimens are undesirable. Exhibition White Kings should weigh between eighteen and twenty-two ounces for hens and twenty-two and twenty-six ounces for cocks. It is unwise to breed from cocks or hens considerably over or under these weights.

That the standard of the White King as adopted by the American White King Association pleases not simply the lover of the beautiful in pigeons, but the practical, money-making squab producer who ships extra select squabs to a fancy trade, it is only necessary to refer to the unprecedented growth of the White King in popularity. It has completely substantiated its right of recognition as a handsome show pigeon for the fancier, and as a rapid producer of pound, plump-breasted, white-fleshed squabs in the lofts of those who have investigated its claims. It is a breed of deeds, not of words, a breed which typifies the American standard of industry, a beloved king among pigeons, a White King whose kingdom is ever increasing.



# Pigeons

## SELECTING BREEDERS

Good breeding stock is one of the prime essentials of success in squab raising. Many failures in squab raising have been due to poor stock, because the prospective producer secured old pigeons past their period of usefulness, or a surplus of male birds. Both the age and the sex of pigeons are hard to determine by casual observation, which forces the buyer to depend largely on the seller's word.

There is a great difference in the value of pigeons as squab producers, even when of the same variety, making it advisable to select the birds individually for their prolificacy and vitality, for the quality and size of their squabs, and their ability properly to feed and rear offspring. Dark-colored skins, legs, or beak indicate poor quality of flesh and should be avoided by selecting birds for breeding which have white or pinkish-white skin and light-colored legs.

Pigeons are most valuable as squab producers when from two to six years of age, altho many will breed until they are about eight years old. The small varieties mate and breed at five to six months, and the larger ones at eight to nine months. It is advisable either to buy mated pigeons which are from two to three years old or to secure young birds six to eight weeks old and mate them at the proper age. Squabs which are to be saved for breeding should be banded before they leave the nests and a record kept of their breeding. They are usually removed from the breeding pen after they are able to fly about and get their own feed. A catching net or bag made of large-mesh cotton netting, with the mouth or top about eighteen inches in diameter, is very useful for catching the pigeons. Squabs hatched in April, May and June make good breeders, while their value on the market is comparatively small at that time of the year.

## MATING

Pigeons usually mate in pairs and remain constant thru life, altho the mating may be changed if desired. The presence of unmated pigeons (especially males) in the pigeon loft is a source of much trouble and usually prevents profitable results, therefore it is very essential that all birds in the breeding pens be mated. Pigeons are usually mated at from five to nine months of age. There are two methods of mating, natural and forced. Males and females are placed in a pen in natural mating and allowed to select their own mates, which is usually indicated by the male billing and driving the female. If properly mated the pair will commence to build their nest and will be found together at night, while unmated birds usually remain alone. Experienced breeders, however, are occasionally deceived in selecting sex by the actions of the birds in mating.

Forced mating may be made, if the sex of the birds is known, by confining them to mating coops with a movable wire or open-slat partition between the birds of each pair, so that they can see each other for six to ten days, when they are allowed to go together and are then removed to the breeding pen if they appear to be properly mated. The male is usually placed in the mating pen one day earlier than the female. The female pigeon is usually smaller and less assertive than the male and has a smaller head and neck, altho sex is a very difficult thing to determine in this way. Both natural and forced matings are used extensively with good success.

The breeders should be selected with a definite object in forced matings, using males strong in points where the females are weak. The same principle should be followed as far as possible in selecting the birds for natural mating. Old pigeons mated with young birds often give good results in breeding, making it advisable sometimes to break up and change a mating as a pair gets old and prolificacy decreases. Some matings pro-

duce undesirable qualities in the squabs, which makes it necessary to remate or cull out the flock.

Continued close inbreeding is not desirable, and many pigeon raisers try to avoid any inbreeding. The relationship of pigeons as shown by their bands both in natural and forced matings should be considered. The danger from close inbreeding appears to depend largely on how carefully the breeders are selected, but it should be avoided by the average squab producer. Careful records of all matings should be kept. The males are usually banded on one foot and the females on the other to distinguish the sex of the birds in the breeding pen. If a breeding pigeon dies its mate should be removed from the pen and a new mating made.

### HATCHING AND REARING SQUABS

The hen pigeon usually lays two eggs in three days, before she starts to sit. If more than two eggs are laid it is advisable to remove the extra ones, as a pair of pigeons can raise only two good squabs at one time. The period of incubation of pigeon eggs is about seventeen days. Both the male and the female pigeon sit on the eggs, the male usually relieving the female during part or most of the day. Pigeon eggs are usually fertile if the pigeons are healthy and properly fed, especially when they have free range. One squab (usually the male) frequently hatches first, and where there are several cases where one squab outgrows its nest mate, it may be advisable to sort the squabs in the nests, making the pairs as uniform as possible in size and age. They should usually be changed in the nest, however, before they are ten days old, at which time their parents stop feeding them on pigeon milk.

Squabs are reared and fed by both of the parent birds on a thick, creamy mixture called pigeon milk, produced in the crop of the pigeons. It is very essential that the pigeons have a plentiful supply of grain while they are rearing squabs if rapid growth of the young is to be secured. Pigeons usually feed the squabs shortly after they themselves are fed and should not be disturbed at that time, thus making it advisable to water them before they are fed. Care should always be taken not to frighten or disturb pigeons or squabs any more than is absolutely necessary. If the parent birds die the squabs may sometimes be removed to a nest where there is only one squab, or they may be fed artificially, altho this process takes considerable time.

### FEEDING

Many varieties of grains are used in feeding pigeons. A good mixture of staple grains may be made of equal parts by weight of cracked corn, hard red wheat, kaffir corn, and Canada peas, with a small quantity (ten per cent) of hemp and millet seed added during the molting period. Other grains which may be substituted for or added to these are peanuts, oats or hulled oats, buckwheat, Egyptian corn, barley, cowpeas, and milo maize, while a small quantity of stale bread, rice, rape, millet, canary, vetch, and sunflower seed may be fed for variety. Canada peas are expensive, but seem to be essential to the best results, especially during the breeding season, and apparently take the place of green feed to some extent. Peanuts are being used to some extent in place of Canada peas. Green feed such as cut clover, alfalfa and grass, lettuce, and plantain leaves may be fed to advantage, but is not absolutely essential.

A variety of good, hard grains is essential to success, and grains which are in poor condition should not be fed. Old grains which are hard are better than new soft grains, especially for pigeons with squabs. Red wheat is considered better than white wheat by many pigeon breeders. Good wheat screenings are often fed with success, as they usually contain a variety of seeds. Various stimulating seeds, such as lentils and vetch, are sometimes fed as a tonic to breeding birds during the molting period.



Clear drinking water, grit, broken oyster shell, and charcoal should be kept before the pigeons all the time. Salt is fed to pigeons in various forms, and a supply of this material is generally considered essential. Pigeons not accustomed to eating fine salt are apt to eat too much if given a large quantity at one time, altho fine salt is used with good success by many careful feeders. Salt may be fed in a lump form, such as rock salt or as fine salt moistened and baked into a hard lump, without danger of the pigeons eating too much. Salt may also be fed mixed with grit, charcoal, and oyster shell.

### MARKETING

Squabs are fed by their parents until they are marketed, which is usually at from three and one-half to four and one-half weeks of age. They must be sold about this age, as the period during which they are ready for market rarely exceeds one week. Squabs are in good market condition when fully feathered under the wings, which is usually about the time they begin to leave their nests, and if not killed at this time they soon lose their baby fat and their flesh begins to get hard.

Catch the squabs to be marketed in the morning before they are fed by their parents, so that their crops will be empty. Squabs are usually killed in the same manner as poultry by cutting the arteries in the back part of the roof of the mouth and piercing the brain, but if sent to market without plucking they are usually killed by wringing or breaking the neck. The latter is done by pressing the thumb against the place where the bones of the neck join the head, until the head is dislocated. In sticking, the squabs are hung by their legs on nails or hooks, with their wings double-locked. After they are stuck the feathers are immediately plucked clean with the exception of the head, and the birds are cooled either by placing them in cold water or by hanging them in a cool place. The crop should be cut open and thoroly cleaned if it contains any feed.

Squabs should be graded according to size and quality, as dark-colored and small squabs tend to lower the price paid for an entire shipment of mixed squabs. They are usually packed for shipment in a good supply of cracked ice, breasts up, with paraffin paper between each layer of ice and squabs. As the period at which a squab is right for market is not over one week, it is necessary to have a good-sized flock to have over one dozen squabs ready for market at one time. A local market which will take any number of squabs is a great aid to the small producer. Where one has a small flock it usually pays best to build it up until it is large enough to make good-sized shipments of squabs. This, however, requires a constant outlay without any return for some time.

The production of squabs from each pair of breeders varies from one or two to as high as ten or eleven pairs a year, but an average of from six to seven pairs is a fair estimate, altho some squab breeders do better than this. Squabs usually sell at the highest prices during cold weather, as pigeons do not breed as freely during the winter as during the spring.

### MANURE

Dry pigeon manure may be sold to tanneries in some sections at from thirty to fifty cents a bushel, if it is kept free from any foreign matter such as sand and nesting material, but the demand for this purpose appears to be very small. It has considerable value as a fertilizer and should be mixed with dry dirt or some filling material if used for this purpose, as it is quite rich.

### DISEASES AND PARASITES

The pens and yards where pigeons are confined must be kept clean. There is very little chance of making money from squabs unless the pigeons can be kept comparatively free from diseases and insect parasites. If healthy breeding stock is secured, the houses and yards kept clean, and

careful attention given to the birds, diseases and parasites should not be a material factor in squab raising.

The stock should be carefully watched and any sick birds removed from the breeding pens. The house should be kept clean, dry, well ventilated, and free from drafts. The yards should be kept clean either by scraping the surface and adding fresh sand or gravel or by cultivating the land and planting it to grain if possible. Only good, sound grain should be fed.

The nests, nest boxes, and pens should be kept clean, but it is not advisable to disturb the nests which contain eggs or squabs any more than is actually necessary. The pens should be sprayed frequently with white-wash containing a little crude carbolic acid, or with a coaltar disinfectant, and the nest boxes and perches should be examined for mites, especially in hot weather, and sprayed with kerosene oil or some commercial preparation which will kill mites, if any are found. The nests or nest pans should be cleaned out and the nesting material removed after the squabs are marketed or leave the nests.

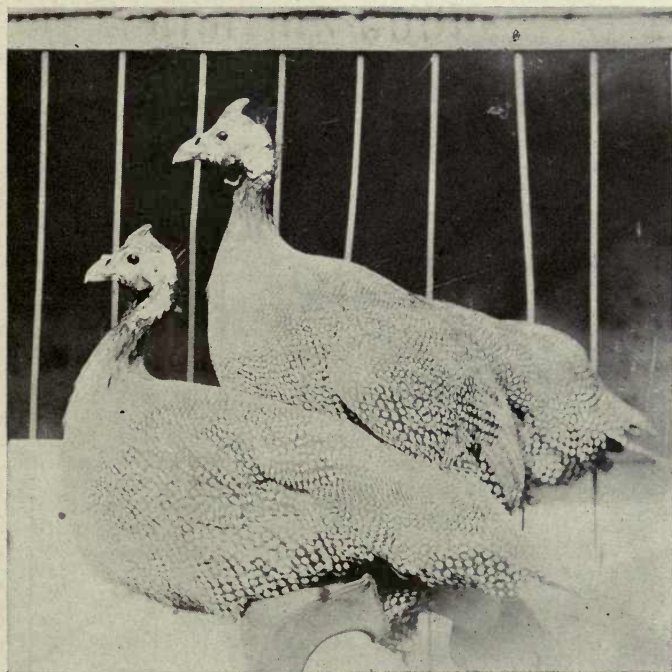
### CANKER

Pigeons are subject to many of the diseases which affect poultry and may be treated in the same manner. Canker and the disease or condition called "going light" seem to be more prevalent in pigeons than in the domestic fowl. Canker appears as sores or cheesy patches in the mouth and throat, and can usually be prevented by providing good sanitary conditions and feeding only clean, sound grains and clean water. It may be treated by swabbing the mouth and throat with a solution of equal parts of hydrogen peroxid and water or by using dry sulphur. Enough potassium permanganate may be added to the drinking water to give it a wine color. Various remedies or preventives of disease are used in the drinking water by pigeon breeders whenever the stock appears to be in poor condition. Among these are carbolic acid, epsom salts, copper sulphate, and venetian red. Ulcers sometimes appear on the head, around the bill, eye, mouth, or in the throat, and pigeons thus affected should usually be killed.

### GOING LIGHT

This disease or condition is more or less peculiar to pigeons and is difficult to cure. It may be brought about by feeding filthy or unsound grains, by filthy conditions, and by any factor which tends to destroy the vitality of the pigeons. The symptoms of this condition are a gradual loss of flesh, frequently accompanied by diarrhea. The practical method of treatment is to remove the cause. Pigeons in this or in any other diseased condition will often get well if allowed their freedom. Tonics are used by some pigeon breeders, especially during the molting season, but their constant use is not generally advised under normal conditions.





PRIZE PEARL GUINEAS

Male above - Female below The helmet and wattles of the male  
are larger than those of the female

## Guinea Fowl

We have been raising Guineas for a number of years and have improved the strain each year, until now we are able to offer for sale birds of first-class stock. Owing to the constant demand for these birds and eggs, we have enlarged our flock so that we have for sale a limited number of birds as well as eggs.

We have shipped Guineas to many places in California as well as adjacent states, and find they stand the shipment well.

We are selling Guinea Fowl at \$2.00 a bird, and eggs at \$2.00 a setting.

## The Guinea Fowl

The male and the female guinea fowl differ so little in appearance that many persons have considerable difficulty in making a distinction. Indeed, it often happens that those who are inexperienced in raising these fowl will unknowingly keep all males or all females as breeding stock. Usually the males can be distinguished by their larger helmet and wattles and coarser head, but to be positive one should listen to the cry made by each bird. That of the female resembles "buckwheat, buckwheat," and is decidedly different from the one-syllable shriek of the male. When excited, both the male and the female emit one-syllable cries, but at no time does the male imitate the cry of "buckwheat, buckwheat". Sex can be distinguished by this difference in the cry of the male and female when the birds are about two months old.

### BREEDING

Like quail and most other wild birds, guinea fowls in their wild state mate in pairs, and this tendency prevails among domesticated guineas also, provided the males and females are equal in number. As the breeding season approaches, one pair after another separates from the remainder of the flock and range off in the fields in search of a suitable nesting place. Once mated in this way, the male usually remains with his mate thruout the laying season, standing guard somewhere near the nest while the hen is laying and ready to warn her of any approaching danger. However, it is not necessary to mate them in pairs under domestic conditions to secure fertile eggs, and most breeders keep but one male for every three or four females. When mated in this way the hens are more apt to lay near home, and several usually lay in the same nest, thus making it much easier to find the nests and gather the eggs.

Most guinea raisers allow their breeding stock free range of the entire farm at all times, and this helps to keep the birds strong and vigorous. During the winter the breeders should be fed a grain mixture of corn, wheat, and oats twice a day, and where no green feed is available on the range at this time of the year, vegetables, such as potatoes, turnips, beets, and cabbage, should be substituted. Animal feed is essential to best results and can be supplied by feeding meat scrap or skimmed milk. Given free range, where the supply of natural feed during the winter and early spring is ample, as it usually is in the southern portion of the United States, the guineas can be left to pick up a considerable part of their feed. Free access to grit, charcoal, and oyster shell is necessary thruout the breeding and laying season. Avoid having the breeders too fat, but keep them in good firm flesh.

While guineas can be kept in the best breeding condition upon free range, still they can be confined, if necessary, and satisfactory results obtained.

### LAYING

Guinea hens usually begin laying in April or May. A short time before the opening of the laying period the hens with their mates begin searching for suitable nesting places among the weeds and brush along the fences or in the fields. In this search the male takes as active an interest as his mate, and when a suitable location is found both help to dig out the nest and make it into a suitable shape. Each day as the hen goes to the nest to lay the male accompanies her and remains near-by until she comes off. Should anyone approach her he shrieks in warning and thus betrays the whereabouts of the nest, which might otherwise be difficult to locate. If several guinea hens are mated with one male they usually all lay in the same nest, but sometimes a hen after mating will wander off by herself to make her own nest. At other times the male bird, after helping one hen to make her nest, will then desert her and pair off with another hen to make another nest.



From twenty to thirty and often more eggs are laid before the guinea hen becomes broody, at which time she can be broken of her broodiness easily by removing the eggs from her nest, when she will soon begin laying again. If not allowed to sit, guinea hens will continue to lay thruout the summer, laying from forty to sixty and in some cases one hundred eggs during the season.

### GATHERING THE EGGS

The wild nature of the guinea hen asserts itself in her nesting habits. Instinct demands that the nest be well hidden from all enemies, such as crows, dogs, skunks, opossums, rats, foxes, coyotes, and other predatory animals. If the hen becomes frightened by the intrusion of some enemy, or if her eggs are removed from the nest, more than likely she will change her nesting place to a safer location. For this reason she should not be disturbed while she is on the nest, and the eggs should not be removed without leaving a few nest eggs in their place. If a number of eggs are removed at one time, half a dozen left in the nest usually are sufficient to keep the hen from seeking a new nest. If the eggs are gathered every day, two or three usually are enough to leave as nest eggs. It is unnecessary to remove the eggs with a spoon or to scrape them out with a stick, as is sometimes done to prevent the hand from coming in contact with the nest and leaving a scent. After the eggs are gathered they should be handled with as little jarring as possible and should be set while fresh, never holding them more than two weeks if it can be avoided.

### INCUBATION

Ordinary hens are used commonly to incubate guinea eggs, but guinea hens, turkey hens, and incubators also can be employed successfully. The usual sitting for a guinea hen is about fourteen eggs, for a hen of one of the general-purpose breeds, such as a Plymouth Rock, eighteen eggs, and for a turkey hen, about twenty-four eggs. The incubation period for guinea eggs is twenty-eight days, altho frequently they start hatching on the twenty-sixth day and are all hatched by the end of the twenty-seventh.

If the nest in which the guinea hen becomes broody is safe from any disturbance, she may be trusted with a sitting of eggs and more than likely will hatch out every egg that is fertile, provided all hatch at about the same time. As soon as the guinea chicks begin to leave the nest the hen will leave with them, and any eggs that are late in hatching are ruined unless they are placed in an incubator or under a broody hen before they become chilled. Guinea hens usually are too wild to be set anywhere except in the nest where they have become broody, and often such a nest is unsafe. Because of these disadvantages and the fact that guinea hens do not make the most satisfactory mothers for guinea chicks, ordinary hens are most often used to do both the incubating and the brooding, at least until late in the summer, when the guinea hens often are allowed to sit and raise a brood without much attention being given them. Broody turkey hens, when not needed to incubate turkey eggs, often receive a sitting of guinea eggs, and they hatch them quite as well as ordinary hens and also are able to cover more eggs.

### ARTIFICIAL INCUBATION AND BROODING

Incubators are used as successfully in hatching guinea eggs as in hatching hen eggs. They are operated in exactly the same way for either kind, except that the thermometer is lowered sufficiently to make its relative position above the guinea eggs similar to its former position above the hen eggs.

Little has been done in the way of brooding guinea chicks artificially. They are naturally of a wild nature and require free range to grow into strong, vigorous birds.

## NATURAL BROODING OF GUINEA CHICKS

Ordinary hens make the best mothers for guinea chicks. Given warm, dry weather and plenty of range, turkey and guinea hens can be used successfully, but should a rain or heavy dew occur, the mother turkey or guinea hen is apt to drag the chicks thru the wet grass and many are lost from becoming wet and chilled. Neither turkey nor guinea hens can be induced to seek the shelter of a coop at night and during storms, but will remain out in the fields to hover their broods wherever they happen to be when nightfall overtakes them. When the guineas are old enough to roost they can be trained to roost wherever desired by driving them to the roosting place and feeding them there regularly. After the first few nights they will come to the place themselves, but until they are old enough to roost many of the young guineas that are being raised with turkey or guinea hens are likely to be killed by exposure to cold and dampness, or by being led over so wild a range that they become exhausted and are unable to keep up with the remainder of the flock.

If ordinary hens are used as mothers, it is very easy to raise a large percentage of the total number of guinea chicks hatched. Each hen that is to have a brood should be allowed to hatch out some of the eggs herself, after which she will mother all that are given her. A Plymouth Rock hen can care for eighteen easily. After the hatch is completed and the chicks are strong enough to leave the nest, the hen and brood are ready to be removed to the coop provided for them. The greatest fault of the hen as a mother is that on the average farm she has become accustomed to staying about the barnyard, and if allowed to do so, she will keep her guinea chicks there also. Conditions about the barnyard are entirely unsuited for raising guineas, and to prevent the hen keeping them there the coop should be placed in a distant pasture or field. Here the hen should be induced to remain until the guineas are old enough to go to roost.

For the first two days the hen should be confined to the coop, allowing the chicks to run in and out at will. They will not stay away unless there is another brood near by, which they are apt to join. After the first few days the chicks become so attached to their foster mother that they will never leave her. By the third day the hen will have recognized the coop as her home and can have free range without fear of her wandering far away. At night she will return to the coop with her brood and can be shut in to protect her from foxes or any other night prowlers. After the dew is off the grass in the morning the coop can be opened and the hen and her brood allowed free range again. Should a rain come up they can easily be driven to the coop and the chicks will be kept warm and dry. The coop should be rain proof and built without a floor. If it is moved a short distance every day, the ground beneath it is kept fresh and clean.

## LICE

Hens to be used in brooding guinea chicks should first be completely freed from lice. This can be done by dusting them with some good lice powder at the time they are set, and repeating once a week during the period of incubation. Guineas are less likely to have lice than common fowl, but when they are raised with hens care should be taken to keep them from becoming infested. Examine the young chicks about the head and along the wing bar at the base of the quill feathers, and if lice are found grease these parts lightly with lard. As the guineas grow older they take great delight in dusting themselves and usually are able to keep free from lice.

## FEEDING

Guineas are fed in much the same way as chickens, but they require less feed, as they are natural rangers and can be trusted to find enough seeds of weeds and grasses, buds, insects, and green vegetation in the fields to supply much of their living. For the first thirty-six hours after



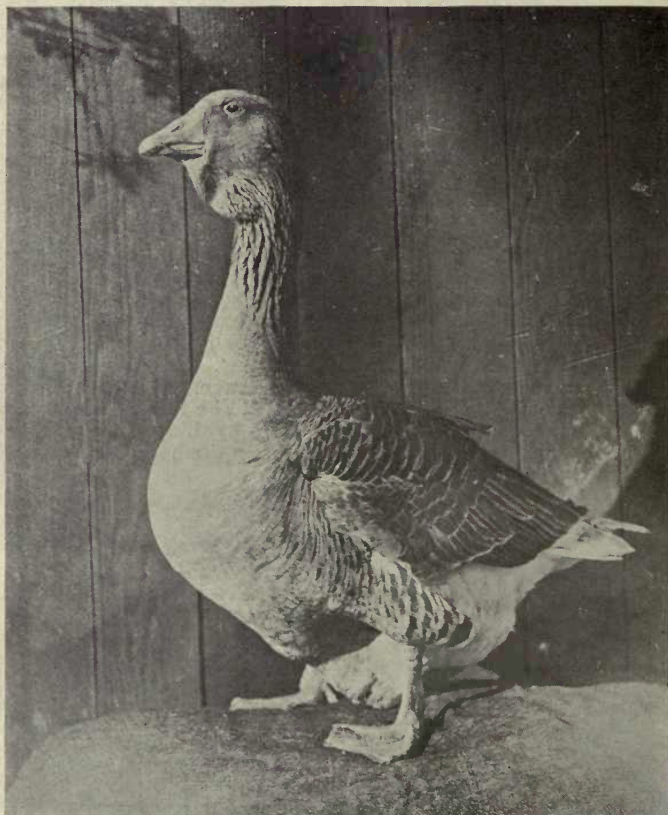
hatching no feed is required, as the sustenance from the egg is sufficient to nourish them for this period. The first meal may consist of a little hard-boiled egg mixed with bread crumbs, or bread may be soaked in milk, squeezed partly dry, and fed in small bits. Clabbered milk also is very good. Three times a day is as often as they need to be fed, one feed consisting of clabbered milk or the bread and egg or bread and milk mixture, and the other two of chick feed. If the coop is placed in a field or pasture where green feed is available, the guinea chicks can secure this for themselves; otherwise, sprouted oats, dandelion leaves, lettuce, or onion tops cut fine should be furnished. Water, grit, and fine oyster shell should be before them always.

By the end of the first week the young guineas will be finding enough worms and insects to take the place of the egg or milk feed, so this may be eliminated and chick feed given morning and night. If clabbered milk is available, however, it can be continued with excellent success, since guineas are very fond of variety in their ration and it is conducive to quick growth. As the birds grow older, whole wheat, oats, and cracked corn can be substituted gradually for the chick feed.

### ROOSTING

When guinea fowl are from six to eight weeks old they will leave their coop and start roosting in some near-by tree or other roost that may be provided for them. They prefer roosting in the open, but if they have been raised with a hen they can be induced to follow her inside a poultry house and roost there. It is advisable to have them become accustomed to going in a house or shed of some sort, for otherwise it is almost impossible to catch them when they are wanted for the market. Guineas, even after they are grown, will not allow the mother hen to leave. When she goes to her nest to lay, they follow and wait near by until she is ready to leave again. This attachment affords an easy method of controlling the natural wild instincts of the guinea fowl and makes raising them under domestic conditions much simpler.

# PARADISE VALLEY POULTRY RANCH



"GOLDEN WING" 32-lb. Toulouse Gander

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